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## ABSTRACT

The report summarizes findings of a study of least restrictive environment (LRE) for handicapped students. Reviews are presented of the legal and legislative background of LRE, the conceptual background of research on environments, the concept of environment in special education, and the results and methodological issues in efficacy research. Analyses of cooperative goal structuring and academic learning times as influences in the environment are presented. Three concluding sections review research on homogeneous versus heterogeneous grouping, teacher behavior and attitudes, and the role of peer interactions. Implications for LRE are addressed for each topic. Four general goals for special education research are identified, including comparison of specific environments or types of environments and intervention toward improvement of environments. The report concludes by emphasizing the importance to conceptualize and measure, broadly and flexibly, the nature of classroom environments. (CL)

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## FINAL REPORT

### Research Integration Project: Analysis and Review of Research on Least Restrictive Environments for Handicapped Learners

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## INTRODUCTION AND OVERVIEW

The present research integration project has had as its goal the review, analysis, and interpretation of educational and related research on the concept of the "Least Restrictive Environment" (LRE) in special education policy and law. The review was initiated following a proposed conceptualization of LRE focused on three levels of interpretation: (1) the legal-legislative policies and interpretations, (2) the administrative decisions and practices, and (3) variables affecting the instructional environments of children with handicaps.

Thus, LRE involves, first, the legal and legislative concepts embedded in the history of critical court decisions and in state and national statutes which provide the criteria for compliance. These considerations establish the salient defining concepts of LRE from ethical, social, legal, and judicial referents in contradistinction to scientific, empirical, or necessarily practical referents. In other words, they represent values of our society based upon the ethical and moral philosophical commitments embedded in the laws.

A second facet in the definition of LRE relates directly to the administrative variables associated with assuring compliance with the legal and legislative prerogatives established to protect handicapped children and assure them an appropriate education. Administrative variables associated with placement of handicapped children are more salient in this definitional component of LRE. It is this facet that is most frequently misconstrued by educators to be the exclusive representation of definitional issues concerning LRE (i.e., mainstreaming vs. special class placement; institutional placement vs. community home placement). In our view, this second facet is like the



first, necessary but not sufficient in seeking a comprehensive conceptualization of LRE. The administrative arrangement to which a handicapped child is assigned may well comply with legal mandates but surely does not consider fully the necessity for providing appropriate instructional programs.

Hence, the final facet of our conceptual model of LRE includes the instructional variables which, in their aggregate, comprise the instructional environment offered to the handicapped child aimed at achieving an appropriate education leading to the realization of objectives based upon his/her individual educational plan (IEP). This facet demands that a review of the literature related to LRE encompasses variables that go beyond compliance to include issues and empirical findings directly related to implementation of appropriate educational programs. We strongly assert that if a definition of LRE is to result in effective programs for handicapped children, then it is time to seriously consider implementation variables which define educational environments that are both in compliance with the law and also assure an appropriate education to handicapped pupils.

#### Sources of Information

Consistent with the initial project proposal primary sources of data for the present document have included the following:

- (a) Legal sources -- derived from court decisions and interpretations following landmark cases related to LRE, and legislative sources -- derived from state and national laws, rules, and regulations pertaining to the LRE provisions.
- (b) Sources of information pertaining to administrative decisions and practices -- derived from research literature related to educational placements (mainstreaming, cascade of educational placements, etc.); derived

from available data from studies currently being conducted by contractors for OSERS (e.g., SRI, Rand, ABT, Research Triangle); derived from selected local and state education agency data sources; derived from previously funded and completed studies conducted for DID, OSERS.

(c) Sources of information pertaining to instructional environments -- derived from a variety of published and unpublished literature pertaining to group characteristics, group size, teacher characteristics and attitudes, demographic variables, teacher behavior variables, curriculum variables, grouping variables, motivational variables, verbal interaction variables, academic competency and growth variables, social acceptance and rejection, self-concept, adaptive behavior variables, and so forth.

### Structure of the Report

The present report summarizes a project in which several thousand journal articles, research reports, chapters, and monographs were reviewed and analyzed. Because of the volume and complexity of this material, the present report departs somewhat from traditional form and presents the reader with a relatively concise summary and synthesis of our research efforts and conclusions as an initial chapter. The interested reader may refer to the appended chapters, which represent comprehensive reviews of research in specific areas, for more detailed information on particular subjects. The process of distilling the voluminous literature related to LRE and the analysis of educational environments toward identification of an empirically meaningful set of pedagogical variables resulted in the abandonment of many variables and conceptualizations of widely assumed importance (see appended reviews of teacher attitudes, expectations, grouping variables). We do not suggest that these variables have no importance, but simply that, as presently conceptualized and operationally defined they have not been associated with sufficiently strong and consistent child outcome effects as to warrant

emphasis in an empirically-oriented definition of LRE.

In the following summary chapter, we briefly review the history and background of the LRE concept in special education, particularly in the context of the ebb and flow of social-philosophical biases in the past decades. Next, we review the current conceptual and empirical status of the dominant line of research on special education environments: the efficacy research. A re-focus of empirical efforts is suggested toward increased emphasis on variables of more direct pedagogical effect: instructional time and classroom goal structure. A shift in research methodology related to analysis of special education environments is suggested which draws upon existing work from the fields of environmental and personality psychology. Finally, a program of research on special education environments is proposed which utilizes more promising methodologies and focuses on what we believe are more important and relevant questions related to the analysis and improvement of classroom environments than those that have characterized most research to date.

Appended chapters reviewing specific areas of research (e.g., teacher attitudes, goal structure, analysis of environments, etc.) are followed by a comprehensive annotated bibliography. This product summarizes individual studies and papers used as primary sources for the present document.

Summary Chapter:  
Defining Least Restrictive Environments  
in Special Education: Toward an Empirical Orientation

The passage of P.L. 94-142 and Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112) represented the codification of several major trends of programmatic philosophy in special education. Two of the most important of these are the trends toward normalization (Wolfensberger, 1972) and individualization of educational services.

In the laws affecting special education, the philosophy of normalization has been most clearly expressed in mandates that handicapped children be educated, to the maximum extent appropriate, with children who are not handicapped. The trend toward individualization has been reflected in provisions for delivery of appropriate instruction as defined by an individualized educational plan (IEP). Viewed separately, the mandates for integration with non-handicapped children and for provision of appropriate, individualized instruction, may not always lead to identification of the same educational placement. For example, following the integration mandate the best educational environment may be viewed simply as the one which is most integrated: the regular classroom. Alternatively it may be argued, following the mandate for appropriate individualized instruction, that an environment which offers the most highly specialized and intensive instruction is the optimal placement for a handicapped child. The conceptual means for considering both of these legislative mandates in identifying optimal educational placements for handicapped children are provided by the notion of the "least restrictive environment" (LRE). Thus, the concept of LRE integrates the mandates for integrated and appropriate (individualized) instruction by stipulating that the child should be placed in the least segregated environment in which an appropriate instructional program can be delivered. Much confusion has risen over this issue.

It is widely recognized that the public, as well as many professionals,

has often misunderstood the intent of the law as a mandate that all handicapped children be placed in regular classrooms (Lowenbraun & Affleck, 1978). Much of the misunderstanding has been caused by the interpretation of the concept of LRE as synonymous with the practice of "mainstreaming" or returning special education students to the regular class. Although clear definition of the term "mainstreaming" remains an important and unresolved issue (Sammel, Gottlieb, & Robinson, 1979), it is important to recognize that LRE is a much broader and more complex concept; one which is relevant to all educational settings.

#### The Legal and Legislative Background of LRE

The principle of LRE has its constitutional antecedents in the Fourteenth Amendment, which requires that no person shall be deprived of life, liberty, or property without due process of law; and that all people have a right to equal protection under the law. The principle of substantive due process reflects the notion that there are limits to the ways in which government may intervene to achieve its ends. Thus, substantive due process rights are at risk in situations in which the government wishes to provide services in a manner which deprive a person of life, liberty, or property. This principle has been central to judicial decisions which have held that handicapped people's due process rights have been denied in cases where they have been institutionalized and appropriate services have not been provided (e.g., Halderman v. Pennhurst; Wyatt v. Stickney). Other decisions based on the right to appropriate treatment have held that such treatment must be delivered in a manner which is least intrusive, least drastic, or least restrictive (e.g., Covington v. Harris).

The extension of the concept of least restrictiveness to educational placement decisions was accomplished in Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania, and Mills v. District of

Columbia Board of Education. Here the courts ruled that children with mental retardation (PARC) and other handicaps (Mills) were entitled to a free and appropriate public education delivered in the regular classroom setting or the least restrictive alternative appropriate.

To summarize, the judicial history of LRE emphasizes two key aspects of the concept. First, the government may abrogate the rights of an individual only when it is necessary in order to provide appropriate treatment. Second, in providing appropriate treatment which necessarily involves restricting some of the rights of an individual, the government must do so in the least intrusive, least drastic, or least restrictive manner possible.

These aspects of the LRE principle are reflected in the legislative enactments relative to special education (P.L. 94-142) and generic service delivery involving people with handicaps (Section 504). The laws stipulate that, in its attempts to provide a free appropriate public education, the government may remove a handicapped child from the regular classroom only when it is necessary in order to provide an appropriate program (treatment). The removal of the child may only occur to the extent necessary to provide that program (i.e., in the least restrictive alternative setting to the regular program). The assumption thus reflected in both P.L. 94-142 and Section 504 is that removal from the regular classroom setting represents a potential abrogation of a handicapped child's rights.

It is important to note that the laws do not retreat from this assumption with regard to degree of handicap. It is assumed that the benefits of contact with nonhandicapped children, as well as the potential harms of segregation, also apply to children with severe handicaps. There is, however, recognition of the likelihood that for some children the "nature or severity of the handicap" will necessitate service delivery in more specialized (and perhaps



segregated) environments than the regular classroom. Category of exceptionality is clearly not a basis upon which the LRE may be identified for individual children.

### Conceptual Background of Research on Environments

A central and enduring concern of empirical researchers in the social-behavioral sciences has involved the parsing of effects due to organismic and environmental variables in explaining human development and achievement (Brody & Brody, 1976; Hunt, 1961; Jensen, 1969). In the applied fields of education, rehabilitation, and clinical psychology emphasis has often been focused on the differential effects of varying therapeutic environmental arrangements on attainment of desired changes in human behavior (Bandura, 1977; Bloom, 1964; Kazdin, 1978; Skeels & Dye, 1939). The area of for handicapped children in integrated or "mainstream" settings. This area of inquiry has particular importance in the field of special education due to current policy mandates for placing children with handicaps in the least restrictive environment. Implementation of this policy is presently proceeding on the basis of its philosophical and ethical justification, but in the absence of an empirical research base (Peck & Cooke, 1983). A central argument of the present chapter is that policy issues related to mainstreaming, LRE, and other notions phasizing assumptions about environmental effects on child performance will not be resolved without a thorough revision of the current concepts of "environment" which dominate policy decision-making. It is equally clear that a revised concept of environment will demand methods of measuring differences among special education alternatives which differ from those characterized in most extant special education research.

The following discussions begin with a review of traditional approaches to identifying environmental variables associated with differential outcomes for learners with handicaps, as well as their contributions and their



limitations with respect to the LRE issue in special education. Secondly, we review empirical research which suggests some specific instructional variables likely to differentiate educational environments in terms of child outcomes. Finally, we present a revised approach to analysis of special education environments based on recent work from the fields of personality and social psychology. A program of research is outlined exemplifying how this approach to analyzing special education environments may lead to better understanding of environmental contributions to child performance and achievement.

### Concepts of "Environment" in Special Education Research

The primary use of the concept of environment in special education research has been with reference to variations in administrative arrangements for the provision of services to learners with handicaps (Semmel, Gottlieb & Robinson, 1979). Environmental categories defined with this approach consist of regular classrooms, resource rooms, self-contained classrooms, segregated schools, and residential institutions (Deno, 1970). The primacy of administrative criteria in distinguishing among special education environments is reflected in the voluminous research literature devoted to comparisons of learning outcomes in regular versus special class settings: the special education "efficacy" research (Guskin & Spicker, 1968; Kirk, 1964; Semmel et al., 1979; Strain & Kerr, 1981). The assumption underlying this approach to differentiating special education classroom environments is that specific administrative arrangements are composite proxies for pedagogically meaningful variables affecting child performance and achievement. The extent to which the empirical evidence supports this assumption is evaluated in a subsequent section of the present review.

While comparisons of special vs. regular class settings have clearly dominated special education research, other conceptualizations of

"environment" have been implicit in investigations of more specific instructional design variables affecting child outcomes. "Instructional design" refers here to consistencies in methods of task presentation, extent of learner participation, and specific reinforcement and feedback strategies employed across instructional tasks and curriculum domains (Bloom, 1976). Two examples of models of instructional design which appear to have substantial effects on child outcomes in special education are the "direct instruction" model (Becker & Engelmann, 1976) and the "cooperative learning" model (Johnson & Johnson, 1975; Slavin, 1980). Illustrative empirical reports of effects associated with each of these are subsequently reviewed.

A third use of the concept of "environment" which has guided a large body of research in special education has focused on the relationships between antecedent stimuli, specific learner responses, and consequent events. Research focusing on these characteristics of educational environments (typically involving procedural techniques related to instruction) has been most often associated with the concepts and methods of applied behavior analysis (Baer, Wolf & Risley, 1968; Sulzer-Azaroff & Mayer, 1977; Tawney & Gast, 1984). While the empirical data generated from this research paradigm probably represent the most pragmatic scientific accomplishment of special education researchers (MacMillan & Morrison, 1980; Tawney & Gast, 1984) the particularistic nature of this knowledge-base does not lend itself easily to addressing broader policy issues without substantial leaps of inference. Because of the considerable breadth of the research literature on procedural techniques in regular and special education, and the existence of comprehensive reviews elsewhere (e.g., Lovitt, 1984; Snell, 1983; Sulzer-Azaroff & Mayer, 1977; Tawney & Gast, 1984), this present review focuses on more "macro-level" environmental variables assumed to affect child performance: special versus mainstream settings, instructional designs and

classroom climate. The following discussion summarizes the most commonly researched of these variables: outcomes of special versus regular class (i.e., mainstream) placement for students with handicaps.

### Special Education Efficacy Research: A Review of Reviews

Administrative concepts of special education environments have been reflected in a long history of "efficacy" studies dating back to the work of Bennett (1932). The empirical goals of this line of research have remained relatively constant, that is, the comparison of effects of regular versus special class placement for children with handicaps. However, it is important to recognize that the "burden of proof" for specific program arrangements has shifted concomitantly with trends in social and political philosophy (Dunn, 1968; Wolfensberger, 1972). Thus, the earlier efficacy studies (i.e., 1932-1970) reflect emphasis on the potential benefits of special class arrangements, while more recent investigations have sought an empirical justification for the policy of mainstreaming (Meyers, MacMillan & Yoshida, 1980; Strain & Kerr, 1981).

The present evaluation of the efficacy research does not replicate earlier efforts to exhaustively review individual studies. Rather, we have conducted a review of seven major research integration papers (Carlberg & Kavale, 1980; Guskin & Spicker, 1968; Kirk, 1964; Leinhardt & Pallay, 1982; Meyers, et al., 1980; Semmel, Gottlieb & Robinson, 1979; Strain & Kerr, 1981) with the goal of clarifying the contribution of these syntheses toward attaining a reliable knowledge-base regarding the effects of administratively categorized special education environments on child outcomes. The reviews of Kirk (1964) and Guskin and Spicker (1968) deal primarily with the early efficacy studies and represent the period when special class placement was preferred for handicapped children. The later reviews include post-1970

studies and reflect the political climate which emerged after the passage of PL 94-142.

### Results of Early Efficacy Research

Academic Achievement. There is general agreement across reviews of the early efficacy studies that academic outcomes were superior in regular class settings. There were, however, exceptions to this consensus (Carlberg & Kavale, 1980; Kirk, 1964; Semmel et al., 1979). For example, Semmel et al. (1979) found no differences due to particular administrative arrangements related to academic achievement. They did conclude, however, that academic behavior (which they distinguish from achievement) was facilitated in resource rooms for EMR, learning disabled and emotionally disturbed children. Carlberg and Kavale (1980) concluded that special class placement was more effective for learning disabled and emotionally disturbed learners even though they concurred with the general finding that regular class placement contributed to superior academic achievement for EMR children.

Other reviewers found academic outcomes to be differentially related to the functioning level of students. For example, Kirk summarized results differently for children at the lower end of the EMR range, indicating that they had superior achievement in special class settings. A similar distinction was made by Leinhardt and Pally (1982), who cited the Goldstein, Moss and Jordan (1965) results which demonstrated different outcomes with high IQ and low IQ students.

Social Adjustment. The most consistent finding from the early efficacy research regarding social adjustment was that EMR children were not well-accepted by their nonhandicapped classmates. However, both the Semmel et al. (1979) and Guskin and Spicker (1968) reviews suggested that there is contradictory evidence relative to specific social outcome measures. While their reviews showed that the social acceptance of EMR children was not

facilitated by mainstreaming, they indicated that evidence from self-concept measures was inconclusive. Additionally, Semmel et al. noted that the actual social behavior of EMR children in regular class settings was indistinguishable from that of their nonhandicapped peers.

As with the academic measures, the conclusions of Carlberg and Kavale were significantly divergent from general opinion. They stated that social outcomes for EMR learners were facilitated in regular class settings. This finding may be partially explained by the specific studies reviewed, since they examined several studies related to social adjustment which were not analyzed by other reviewers. Additionally their conclusions may have differed because they did not divide studies based on the year in which they were done: more than half of the studies which showed superior social outcomes in regular class settings were post-1970. Several reviews included studies from this era, but considered results separately from earlier efficacy research.

#### Results of Post-1970 Efficacy Studies

Academic Achievement. Three review papers recognized a fundamental shift in the focus of the post-1970 efficacy studies (Leinhardt & Pally, 1982; Meyers et al., 1980; Strain & Kerr, 1981). Both Meyers et al. and Strain and Kerr concluded that EMR children progress at least as well within the regular class setting as they did in self-contained classes. Leinhardt and Pally concurred with this finding for high IQ EMR children and for matched populations of EMR students in regular and special classes. However, they concluded that for low IQ students and for studies that used random assignment, academic achievement was facilitated in self-contained settings. However, these authors suggested that it was not the setting per se which accounted for these results, but rather that innovative and effective experimental programming was instituted within these settings in the post-1970

era.

Social Adjustment. In the area of social outcomes for post-1970 studies the three reviews reflect conflicting conclusions. While both Meyers et al. (1980) and Strain and Kerr (1981) reported many contradictions in the literature, they concluded that self-concept measures for EMR children were superior in integrated settings. Leinhardt and Pally also noted the conflicts in the data but drew a different conclusion: "the consistent finding seems to be that EMR students have better attitudes toward themselves in more isolated settings" (p. 26). Although all authors discussed inconsistencies in the literature their conflicting conclusions may have resulted from differences in the studies they reviewed.

A general agreement was that handicapped children were not well-accepted within the mainstream. (Meyers et al., 1980; Leinhardt & Pally, 1982). However, Strain and Kerr concluded that "all" studies reported from the 1970s found that integrated EMR children were viewed more favorably than their special class counterparts" (p. 22). The literature reviewed by Strain and Kerr was limited to teacher reports and measures of peer attitudes while studies reviewed by Meyers et al. and Leinhardt and Pally included sociometric measures as well.

#### Methodological and Conceptual Issues in the Efficacy Research

There clearly is little agreement among the seven major reviews relative to the influence of administratively defined environments on academic and social outcomes in special education. The authors are unanimous, however, in concluding that persistent methodological problems present an ongoing hindrance to interpreting results of efficacy research. A number of specific difficulties have been repeatedly cited: a) nonequivalence of experimental groups; b) use of dependent measures with unknown reliability and validity for handicapped populations; c) changes in the nature of the populations defined



as "handicapped" (MacMillan, Meyers, & Morrison, 1980); and d) lack of specification of the treatment variables under study (MacMillan & Semmel, 1977). The specific threats to the validity of research results obtained under these design conditions has been thoroughly explicated elsewhere (Campbell & Stanley, 1963; Cook & Campbell, 1979; Kirk, 1968), and will not be repeated here. However, because of the central conceptual issues implicit in the last problem (d) noted above, some elaboration on problems related to defining mainstreaming as a treatment variable is merited.

The basic strategy employed in efficacy research involved use of between-group designs to compare the effects of special class versus regular class placement on academic and social outcomes (MacMillan & Semmel, 1977). An assumption of these designs is that sufficient homogeneity in the treatment variable exists within each experimental group to allow reasonable prediction of some consistent effects (Kaufman, Gottlieb, Agard & Kukic, 1975; MacMillan & Semmel, 1977).

Unfortunately, reviewers have noted that this is not typically the case with the efficacy studies in special education. Several differences are evident in the characteristics of classroom settings typically grouped under the same administrative category in special education efficacy research. These include: teacher qualifications (Kirk, 1964), curriculum differences (Semmel et al., 1979), pupil-teacher ratio, teacher competency (Strain & Kerr, 1981), and variations in classroom climate (MacMillan & Semmel, 1977).

The critical point is that the differences between regular and self-contained classroom environments are not typically as large as differences within each type itself. This raises the possibility that administrative typologies of special education service settings may be pedagogically unimportant. We do not infer that service setting characteristics may be

irrelevant, but that we have not typically designed research to focus on the most salient characteristics which distinguish various educational environments. Several lines of educational research suggest that variables may be defined which are associated with substantive effects on child outcomes. These are reviewed in the following section as a means of illustrating how pedagogically meaningful distinctions among special education environments might be identified.

### Instructional Design Variables

The predominance of research attention devoted to instructional design variables has focused on factors related to academic achievement. Selected models of instruction and related empirical studies are outlined below.

#### Instructional Design and Academic Achievement

Following Rosenshine (1979), research on the relationship between instructional design and gains in academic achievement may be considered in three identifiable "cycles". During the initial phase, researchers explored the influence of teacher characteristics on student learning. Typical investigations focused on variables related to personality, attitudes, and teacher experience. Unfortunately, findings from this research were inconclusive: few reliable associations were found between teacher attributes and student achievement.

This led to a second cycle of research directed toward variables more proximal to child outcomes, including a more specific focus on teacher behavior and student-teacher interactions. In a review paper covering this second cycle of research, Rosenshine and Furst (1973) identified several variables that were strongly associated with student achievement: a) clarity of presentation, b) teacher enthusiasm, c) variations in activities during a lesson, d) content covered, and e) task-oriented behavior. Subsequent studies indicated that two of these variables (which overlap) remain good predictors



of achievement across studies of elementary-aged students: content covered and task-oriented behavior (Rosenshine, 1979). The first variable, content covered, simply refers to the amount of curriculum material presented to students. The second, task-oriented behavior, refers to the extent to which the teacher and students maintain a direct focus on academic behavior rather than social or affectively-oriented activities. Data from studies of student-teacher interaction, together with the work of Carroll (1963), Bloom (1976) and others, led to the expansion of academic outcomes research to a third area, emphasizing more direct measures of student instructional participation.

Models of research during the third cycle have typically included three factors (Doyle, 1977): (a) the teacher's arrangement of the learning environment leading to (b) the student's engagement in effective academic learning behavior leading to (c) improved academic achievement. Although "third cycle" researchers acknowledge the influence of both teacher behavior and student behavior on outcomes, they often focus on either the teacher's role or the student's role in the process. Examples of how these roles have been investigated during the third cycle of instructional outcome research are reviewed below.

Models Using Time-On-Task. A critical conceptual shift in thinking about instructional outcome research was articulated in an important paper by Carroll (1963). In this model, amount of learning was predicted by the function: time actually spent divided by the time needed to learn. While some variables in the model consisted of individual characteristics (aptitude, ability and perseverance) there were others which were environmental in focus (opportunity to learn and quality of instruction). Anderson (1981) describes five major models which have been influenced by Carroll's emphasis on

instructional time as a central variable explaining academic outcomes. Three of these approaches which have been of particular interest for researchers in special education are discussed below.

Kounin (1970) proposed that managerial success in the classroom exists when there is a high rate of student work involvement and a low rate of student deviancy. He used observations made both during recitation and seatwork activities to identify those teacher behaviors which would lead to greater student time-on-task. The following behaviors were identified as effective: 1) "with-it-ness" - communicating to children that the teacher knows what's going on; 2) "overlapping" - the ability of the teacher to manage two events simultaneously; 3) "smoothness" of pacing in lessons and transitions - preparing materials ahead of time, maintaining a brisk pace of instruction; 4) "group alerting" - the degree to which teachers provide attentional prompts and organizers; and 5) "accountability" - the degree to which teachers demand active participation from students. While Kounin found significant relationships existed between these teacher behaviors and student outcomes during both recitation and seatwork activities, they were most effective during recitation.

Two later approaches substantially expanded the concepts of time and direct instruction as variables related to academic outcomes. In the Beginning Teacher Evaluation Study (Fisher, Berliner, Filby, Marliave, Cahen & Dishaw, 1980), instructional time was conceptualized as consisting of three types: 1) allocated time was defined as the amount of time set aside for learning in a particular content area; 2) engaged time was defined as the amount of time that a student attentively spent on task; and 3) academic learning time (ALT) was defined as time spent on tasks in which students experience a high success rate. Results of the BTES indicated that there were identifiable classroom situations and accompanying teacher behaviors related

to high ALT for students. These included: academically-focused, teacher-directed tasks; teaching activities with clear goals; allocating sufficient time; extensive coverage of content; monitoring of student performance; questioning at a low cognitive level; immediate, academically oriented feedback; teacher control of instructional goals; and teacher selection of material appropriate to the ability level of the students. Results of BTES provided further support for the notion that task-oriented behavior of the teacher and extensive coverage of content are powerfully related to student outcomes.

A second set of important findings regarding the role of time in explaining instructional outcomes came from Stallings and her colleagues (1975). The Follow Through Evaluation Study (Stallings, 1975) examined the relationships between seven different educational models and academic outcomes in reading and math. The model associated most consistently with superior academic outcomes was the "Direct Instruction" model developed by Becker and Engelmann (1976). The Direct Instruction model incorporates many of the variables identified in the other approaches emphasizing instructional time. These include: continuous instruction, clearly specified goals, closely monitored student performance, immediate and academically-oriented feedback, carefully sequenced materials and tasks, direct reinforcement, material which is appropriate to the level of the students and sufficient time allocated to instruction. Taken with the results of BTES and Kounin, the Stallings research provided compelling evidence in support of the instructional designs featuring the high rates of task oriented behavior and maximization of academic content covered.

Studies in Special Education. Several studies related to the instructional models reviewed above have been carried out with mildly

handicapped learners. In an extensive descriptive study, Chow (1981) compared academic learning time for nonhandicapped and learning disabled learners. Repeated observations were made of fifth and sixth grade mathematics classes over a two-year period. During year one, Chow found significant differences between learning disabled and nonhandicapped students on allocated and engaged time. Learning disabled students had significantly more time at low and medium success rate, while nonhandicapped students had more time at high success rates. During year two, Chow found that nonhandicapped children demonstrated significantly more engaged time with high success rate than did learning disabled students. In contrast, learning disabled students showed significantly more engaged time with a low success rate. Moreover, Chow indicated that no significant correlations were found between ALT variables and achievement for learning disabled students. These results suggest that learning disabled students were not exposed to appropriately designed learning tasks. This implies that teachers may not sufficiently modify large group instruction when the ability level of the learners is highly discrepant, as in mainstream settings.

In a related study, Leinhardt, Zigmond and Cooley (1981) investigated the relationship between specific instructional practices and reading outcomes in special day classes for learning disabled children. They found that teachers could structure the learning environment to influence how students spent their time, and that there was a relationship between how students spent instructional time and their reading achievement. The variable most strongly associated with reading achievement was amount of time spent directly on silent reading. Leinhardt et al. suggested that decreases in transition times, management activities and activities indirectly related to reading (e.g., talking about the story, relating of personal experiences) were associated with increases in reading proficiency.

In another descriptive study, Englert and Thomas (1982) tested the extent to which Kounin's criteria for effective teachers applied in special education environments. Supporting Kounin's original findings, they identified effective teachers as those demonstrating group management strategies which led to a high level of student involvement. These strategies included occupation of a central position in the classroom from which to monitor student task involvement, active surveillance through visual scanning, and circulation among the students during seatwork tasks.

The results of Chow (1981), Leinhardt et al. (1981), and Englert and Thomas (1982) all indicate that the variables identified repeatedly in regular education outcome research also appear important in effecting instructional gains for students with handicaps. Specifically, the degree of student engagement in instructional activities, as well as the amount of content to which students are exposed, appear to offer a parsimonious characterization of effective special educational environments in terms of academic achievement.

Further support for this proposition comes from a number of experimental investigations which have assessed the effects of more discretely analyzed procedural variables on academic outcomes for learners with handicaps. For example, Pany, Jenkins and Schreck (1982) used a direct instructional model to teach vocabulary to both learning disabled and nonhandicapped students. They designed several levels of intensity in instruction ranging from requiring the students to use contextual information to define a word, to having the student a) read the word, b) listen to the experimenter define the word, and c) practice the modeled definition. While learning disabled students showed significant gains only with the most intensive instructional procedures, nonhandicapped students learned with the less intensive instruction. This finding supports the notion that the amount of direct instruction required for

handicapped children will likely be greater than that required for nonhandicapped students. Simply integrating handicapped children within the mainstream without altering the instructional design may not lead to effective outcomes.

In another study, Maier (1980) explored two aspects of direct instruction: the use of small step increments and the administration of explicit instructions. Learning disabled students, who were randomly assigned to experimental and control groups, heard a story about which they were later questioned. While a control group just had the story read to them, the experimental group had the story divided into three segments and were told to focus on a specific question for each segment. Results indicated that experimental group children had more correct responses to questions which reflected higher mental processes. Again, more direct and intensive instruction appeared to lead to superior outcomes.

Summary : Effects of Instructional Design on Academic Outcomes. The foregoing review of instructional time as a design variable suggests that the following programmatic characteristics may typify effective special education environments:

- 1) high student instructional engagement;
- 2) rigorous teacher monitoring of student activity;
- 3) regular teacher feedback to students;
- 4) well-sequenced learning tasks which are appropriate to the learner's achievement level, and broken into incremental steps;
- 5) clearly specified performance requirements;
- 6) minimization of transition time, management time, and activities indirectly related to academic performance.

Clearly these characteristics of instruction constitute important variables to be included in any pedagogically meaningful analysis of special



education environments. It appears likely, however, that at least some of these characteristics may be difficult to implement in mainstream settings where there is high variance in student cognitive and affective behavior. For example, the large group classroom management strategies identified as effective (Englert & Thomas, 1982; Fisher et al., 1980) may be more difficult to implement when students must work at very different levels to maintain a high success rate (see Gerber & Semmel, in press).

### Instructional Design and Social Outcomes

While the direct instructional models described above are clearly useful for promoting academic outcomes, they place little emphasis on social development, and likely do not represent optimal approaches to this aspect of classroom programming. Other instructional paradigms, however, have been developed with specific attention to providing conditions likely to facilitate positive child-child social interactions and opportunities for social learning (Johnson & Johnson, 1975; Slavin, 1980; Strain, 1981).

The importance of peer relationships to normal child development has received increased recognition since Hartup's (1970) influential paper. A number of specific instructional models have been developed which utilize cooperatively-oriented small group activities as a method of facilitating development of both positive peer relationships and academic competencies. Each of these models is based on the assumption that students feel positively toward peers who are perceived as contributing to the attainment of their personal goals.

For example, Johnson and Johnson (1975) describe a learning environment that can be structured by the teacher which produces positive goal interdependence among learners. In cooperative goal structure students can achieve their learning goal if and only if all the other members of the group

attain their goal. This structure is contrasted with a competitive goal structure in which attainment of one child's goal is negatively correlated with those of the other children, and an individualistic goal structure in which goals are attained independently. Johnson and Johnson suggest that there are positive feelings generated with cooperative goal structuring because the positive value associated with the efforts of a person who helps to achieve a goal become generalized to the person him/herself.

Models of Cooperative Learning. There are three major models of cooperative learning. In the Jigsaw variation (Aronson, Bridgeman & Geffner, 1978) each member of the group has access to part of the information which they teach to the other members. Participants in the group are highly interdependent because no individual has access to all information. Rewards, however, are given individually and are based on individual performance. We were unable to uncover empirical evaluation studies focused on the application of this model with handicapped children. Aronson, however, suggests that the model can include "poor readers" who benefit from the modelling presented by the more competent group members. If this instructional design were used with handicapped children, their portion of the lesson would need to be structured carefully so that they would be seen as contributing equally to the effort of the group.

The Teams-Games-Tournaments model (Student-Teams-Achievement Division) is a cooperative learning strategy developed by Slavin (1978) and his colleagues. The cooperative aspect of this model lies in its teamwork component. Children of differing ability levels work and train together to prepare for the tournaments (TGT) or quizzes (STAD) that they take. While children compete during quizzes, the competition occurs between children at the same ability level. Both TGT and STAD were developed for drill and practice on basic skills in reading, mathematics and language arts.



A third method is the Small Group Teaching Model developed by Johnson and Johnson (1975). In this model data is gathered by the students who then use group discussion to interpret the information and incorporate each individual's efforts into a group product. In contrast to the Slavin model this paradigm is used to train higher level skills including problem solving, interpretation of data and decision making.

Studies in Special Education. Several early studies used cooperative activity as an intervention strategy to increase social acceptance for handicapped children. Chennault (1967) formed groups consisting of EMR children identified as accepted or rejected on sociometric measures. Those students then worked together to plan, rehearse and present a skit. While Chennault found that the rejected students were accepted as a result of the intervention, the global nature of the intervention package made effects due specifically to the cooperative aspect of the strategy ambiguous.

Ballard, Corman, Gottlieb and Kaufman (1977) extended research on use of cooperative learning activities to a mainstream setting. Because treatment gains had not been maintained in other intervention studies (Lilly, 1971; Rucker & Vincenzo, 1970) they instituted a longer and more intensive intervention program. While improvements in acceptance were achieved and maintained for four weeks following the intervention, there were no concomitant improvements in the rejection of the handicapped children.

A more extensive program of research has been conducted on the effects of cooperative goal structuring by Johnson and Johnson and their colleagues (Cooper, Johnson, Johnson & Wilderson, 1980; Johnson, Rynders, Johnson, Schmidt & Haider, 1979; Martino & Johnson, 1979; Smith, Johnson & Johnson, 1982). One series of studies examined recreational activities (i.e., bowling or swimming) with nonhandicapped and either learning disabled or severely

handicapped (SH) youngsters. Outcome measures included the frequency of friendly interactions between the handicapped and nonhandicapped children. These were consistently greater in the cooperative learning conditions than in either the competitive or individualistic conditions.

In related research carried out in a classroom setting, handicapped and nonhandicapped children were randomly assigned to groups stratified by ability (Cooper et al., 1980). Teachers taught under each of three experimental conditions: cooperative, competitive and individualistic. A sociometric instrument and an attitude scale were used to measure social outcomes. Results for the cooperative condition indicated that nonhandicapped children perceived themselves as giving more help, and all students perceived themselves as receiving more support from their peers. In both the cooperative and competitive conditions the nonhandicapped children chose the learning handicapped children as their friends.

Although the primary rationale for cooperative learning arrangements has emphasized potential social benefits, there have been a limited number of studies which have employed a cooperative learning strategy to affect academic outcomes for handicapped learners (e.g., Smith et al., 1982). Other studies have concomitantly monitored both academic and social outcomes for handicapped learners. Madden and Slavin (1983) used the STAD model with learning handicapped and nonhandicapped children randomly assigned to STAD groups or to control groups for mathematics instruction. Social outcomes indicated that while there was less rejection of learning handicapped children taught with the cooperative learning strategy, there was no difference in the number of friendships identified between handicapped and nonhandicapped pupils. For academic outcomes there was improvement in mathematics achievement for the whole group of STAD children, but not for the subsample of learning handicapped children.

Summary: Effects of Instructional Design on Social Outcomes.

Cooperative goal structuring represents an instructional design which appears effective in improving social outcomes for handicapped children. It is clear, however, that a cooperative strategy cannot be used as a short-term intervention with the expectation of long-lasting effects (Ballard et al., 1977). There is more limited evidence that academic outcomes are affected, although relatively few studies have focused on these effects.

There are characteristics of cooperative strategies which may limit their effectiveness in mainstreamed settings. The social nature of the cooperative task itself may require children to be at an appropriate developmental level to function in a group, as well as to take responsibility for their own learning. In addition, the evidence from the direct instruction literature indicates that handicapped children may take longer to grasp information, and that they may need more intensified instruction. Group functioning may be difficult under these circumstances.

#### Analysis of Educational Environments

The foregoing empirical studies related to the effects of two major variables in instructional design make it clear that learning time and goal structure constitute pedagogically important aspects of classroom environments. While these variables have been central components of cohesive program models (Becker & Engelmann, 1976; Johnson & Johnson, 1975), they have typically been conceptualized and operationalized as discrete intervention components or independent variables for comparative research. Development of scaling methodologies for assessing natural distributions in these environmental characteristics across special education settings will be necessary for the advancement of analysis of environments research related to these variables. Methodological work in other fields, notably personality and

social psychology (e.g., Endler & Hunt, 1968; Forgas, 1979) and environmental psychology (e.g., Barker, 1968; Moos, 1979a) have provided guidance for development of several specific instruments and related lines of research in education settings which has relevance to present methodological needs in special education.

### Theoretical Antecedents

The empirical work reviewed subsequently reflects theoretical orientations derived from early work in social psychology by Murray (1938) and Lewin (1951). Both Lewin and Murray developed theoretical models which focused on interrelationships between environmental characteristics and human behavior. Murray's model differentiated between the personal needs of individuals, and the press exerted by the environment. Needs refer to consistencies in the behavior of an individual which appear to be organized toward achieving a specific goal. Press variables refer to those environmental characteristics (e.g., rules, social expectations, behavioral contingencies) which facilitate or inhibit meeting specific needs. For example, certain classroom environments might be characterized as having a high press for academic achievement. Conversely, individual children in a given classroom might exhibit a high need for academic achievement.

The differentiation of these dimensions of the social environment organizes innumerable questions for research on the interrelationships between need and press variables, on differences between various social environments, and on differences between individuals. Many of the questions related to differences in the press dimensions of school environments as well as questions related to degrees of "fit" between personal and environmental characteristics (Pervin, 1968) have been the subject of research which is highly related to conceptual and empirical issues regarding handicapped children and the identification of environments which are appropriate to

meeting their needs.

The second major theoretical work which has stimulated research on analysis of environments has been Lewinian Field Theory (Lewin, 1951). Field theory represents a complex and highly unified model for mapping the interrelationships between personal and environmental factors affecting behavior. The theory emphasizes the importance of both the social and physical aspects of a situation in determining behavior. It assumes that accurate characterization of a field requires analysis of its specific features (e.g., stimuli, goals, needs) as well as its general atmosphere (e.g. friendly, hostile, tense). Thus, the characteristics of the field as a whole are just as important as its specific features. Both the Murray and Lewin conceptualizations have been reflected in many subsequent research efforts aimed at describing, classifying, and comparing social environments.

### Describing Educational Environments

Efforts to systematically analyze characteristics of classroom environments have been underway for several decades. Early research focused on observation and description of aspects of teacher-student interaction. For example, Flanders' Interaction Analysis System (Amidon & Flanders, 1963) was developed as an observation instrument for assessment of classroom social climate. This widely used tool probed both teacher and student behavior in an attempt to describe relationships between "direct" and "indirect" aspects of teacher influence and student behavior.

Another influential approach to analysis of environments through direct observation was developed by Barker and his associates (Barker, 1968; Barker & Gump, 1964). Utilizing an ethnographic-type naturalistic observation methodology, Barker attempted to identify distinct "behavior-settings" in various social environments, based on theoretical principles from Lewinian

## Field Theory.

Direct observation techniques have a high degree of face validity as a method of describing environments due to the relatively low level of inference required for interpreting the data. However, the high costs of direct observation have precluded its use in many studies. Additionally, some researchers have argued that it is the subjective reality experienced by learners that is of primary interest relative to many issues in the analysis of classroom environments (Fraser, 1981).

Utilization of questionnaires has allowed researchers to collect information describing large numbers of social environments at relatively low cost. Two widely used instruments developed to characterize classroom environments are the Learning Environment Inventory (Anderson & Walberg, 1968) and the Classroom Environment Scale (Moos & Trickett, 1974).

The Classroom Environment Scale was based on the Murray Needs-Press theory. Items were generated from observation, interview, and related theoretical and empirical research and then subjected to psychometric analysis before final inclusion in the tool. Nine subscales are included which measure psychosocial aspects of the environment such as involvement, affiliation, competition, and teacher control. The CES consists of three forms that can be answered either by the teacher or by the students relating to: 1) the actual classroom, 2) the preferred or ideal classroom, and 3) the expected environment in a new class.

Based on work across a number of social settings (see Moos, 1974, 1979a for comprehensive reviews) Moos has identified three underlying dimensions along which even very different environments may be characterized. Relationship dimensions reflect the quality and quantity of interpersonal interaction, involvement and support among participants in a social setting. Personal growth dimensions reflect the extent to which achievement of personal



goals, academic accomplishment, and competition are characteristic of the social environment. System maintenance and change dimensions are related to environmental characteristics of orderliness, teacher-control, organization, rule clarity and innovation (both teacher and student designed variations in classroom activities).

Anderson and Walberg (1968) developed the Learning Environment Inventory (LEI) in the context of a curriculum development and evaluation study in secondary schools - The Harvard Project Physics. This instrument describes classroom environments in terms of 15 scales which can be reduced to areas similar to those of Moos (Fraser, 1981). The relationship area is captured in the LEI scales of cohesiveness, friction, favoritism, cliqueness, satisfaction and apathy. The personal development scales include speed, difficulty and competitiveness, and the system change and maintenance area is measured by diversity, formality, environment, goal direction, disorganization, and democracy scales. While the CES describes both the teacher's and the students' perceptions of the classroom, the LEI is limited to students' perceptions. Walberg and Anderson have developed a form of the LEI - My Class Inventory - which is designed for elementary students, however, there is little reliability or validity data available on this measure (Fraser, 1981).

### Classifications of Educational Environments

A number of investigations have been carried out which have sought to classify educational environments according to types of social-emotional climate. In one study Moos (1978) analyzed a representative sample of 200 junior high and high school classes drawn from across the United States. Using cluster analysis of CES scores, Moos was able to classify 196 of the 200 classrooms into nine types of environments. The conceptual similarity of several of the clusters resulted in reduction to six clusters of classroom

environments.

Moos (1979a) described these clusters both in terms of relative scores on subscales of the CES, and in terms of how performance on the subscales aggregated into the relationship, personal growth, and system maintenance dimensions. Two of the clusters emphasized the relationship dimension. Innovation-oriented classrooms reflected high scores on the innovation subscale of the CES, and an above-average emphasis on all three scales related to the relationship dimensions. These characteristics were contrasted with relatively less emphasis on organization, procedural clarity, and teacher control. Structured relationship-oriented classrooms were characterized by emphasis on student interaction, participation, and teacher support. Concomitant emphasis was evident on organizational aspects of the environment in these classrooms. Two other clusters emphasized different aspects of classroom goal orientation within a cohesive framework with a focus on teacher support. Supportive task-oriented classrooms were typified by relatively high scores on teacher support and task orientation subscales as well as the order and organization indices of the CES. Relatively little emphasis on rule clarity and teacher control was found in these classrooms. Supportive competition-oriented classrooms emphasized competition in a context where students felt friendly toward each other, helped with homework and enjoyed working together. There was an emphasis on organization and clarity and a de-emphasis on teacher control. The last two clusters represented uncombined clusters that Moos named unstructured competition-oriented and control-oriented. The former occurred infrequently with an emphasis on goal orientation and a lack of emphasis in any other area. The final cluster of classrooms emphasized high teacher control and relatively low emphasis on anything else except competition (rated about average). This cluster constituted the most frequently occurring type of classroom environment



identified, comprising over 23 percent of the classes sampled. Moos (1979a) noted that these classes appeared to emphasize teacher control of student behavior to the exclusion of other aspects of learning environment, and may thus constitute a high priority population for further investigation and change.

In addition to delineating the main effects for specific types of environments, Moos (1979a) noted the relevance of studying typologies of classroom environments as a means of identifying contextual factors which may interact with specific intervention programs. This suggests that the replicability of specific programs may be affected by aspects of the social-psychological environment which are not usually assessed. For example, although programs emphasizing student competition may have negative social side-effects in some types of classroom environments (Johnson & Johnson, 1980), the same competitive goal arrangements may be perceived more positively in environments characterized by a concomitant emphasis on positive student-teacher and student-student relationships. Compare, for example, the supportive competition and unstructured competition-oriented classrooms described above.

### Comparisons of Educational Environments

A third general purpose toward which an analysis of educational environments has been pursued consists of the comparison of various environmental types and related effects. For example, Moos and Moos (1978) compared 19 high school classroom environments on dimensions of the CES. Outcome differences related to various subscales included higher absenteeism for classrooms rated as high in teacher control and low in teach support. Higher grades were obtained by students in classrooms rated as high in involvement and low in teacher control.

Studies in Special Education. Forness, Guthrie and MacMillan (1982) examined the relationship of teacher evaluations of classroom climate and observable behavior of students in special day classes. Twenty-eight teachers evaluated their classrooms using the CES. Students in those classes were then observed on measures of positive verbal behavior, on-task behavior, off-task behavior and disruptive behavior. On the basis of these data, the authors were able to separate the classrooms into four clusters. The first cluster was labeled supportive and represented the largest group. In this cluster the relationship dimension was emphasized most with a moderately high emphasis on classroom organization and clarity of expectations. The behavior of children in these classrooms was high in attention and low in non-attention. These classes also had the lowest disruptive behavior, although these differences did not reach statistical significance. The second cluster of classrooms was termed businesslike. Teachers characterized these environments as more controlling, less supportive and less flexible in class routines. Children in these classrooms also exhibited high attending behavior. A third cluster labeled problematic constituted classrooms that were low in involvement, and which had moderately low teacher control, order and organization. Students in these classes were inattentive and disruptive. The authors were unable to clearly characterize the final cluster of classrooms. Although the children in these environments demonstrated attending behaviors similar to those children in the supportive and businesslike classrooms, they showed more peer interaction.

Project PRIME. By far the most ambitious attempt to conduct a thorough analysis of special education classroom environments is represented by Project PRIME (Kaufman, Agard, & Semmel, 1978). This major federally sponsored project was unique in the scope of its underlying conceptualization as well as in the extensiveness of the data collected.

Central to the design of the PRIME investigation was an explicit model for considering child plus environment interaction effects within special education settings. A taxonomic model based on relevant theoretical and empirical research which identified likely sources of variance for outcomes related to both child and setting characteristics was developed. Project PRIME attempted to derive empirical weightings for these variables within a regression equation predicting child outcomes.

The Project PRIME model parsed environmental variables into three components. First the participant composition of the classroom was considered important. Thus, peer characteristics such as school attitudes, intellectual performance, social-ethnographic background, and others were assessed. Teacher characteristics were also viewed as important, including training and experience, attitudes toward mainstreaming, attitudes toward educational issues, socio-ethnographic background and others.

The second category of environmental characteristics identified in PRIME was socio-emotional climate. Related variables were designated as teacher leadership style and peer cohesiveness. Peer cohesiveness characteristics were related to the degree of peer harmony and liking or disliking patterns observed in the classroom. Teacher leadership style was a composite of the teachers' techniques of influence, warmth, and the amount of directiveness.

The third cluster of environmental variables hypothesized to be related to learner outcomes was termed instructional conditions. These included the physical setting, curricular content, and special instructional materials used, and also behavioral dimensions such as teacher strategies, peer instructional activity, cognitive discourse in the classroom, teacher feedback and others.

Project PRIME Results. While more comprehensive data were reported, the

present discussion focuses on learner outcomes in terms of academic and social competence. Academic outcomes were substantially related to environmental variables for all groups studied, but these effects were stronger for handicapped than nonhandicapped learners. Participant composition factors appeared most important in predicting academic outcomes, with teacher characteristics accounting for the largest portion of variance. Specifically, results indicated that teachers who had positive attitudes toward mainstreaming, and Black teachers were associated with positive academic outcomes for handicapped learners. Instructional conditions were related to academic status and academic behavior outcomes, but not to academic attitudes. Specifically, small group instruction formats were associated with lower academic status outcomes for EMR learners. This finding is important given that instructional differentiation, i.e., individualization, has been generally assumed to have positive effects on learning outcomes. Socio-emotional climate variables were associated only with academic behaviors - specifically attention to task.

Social competence outcomes were more powerfully related to environmental factors. Participant composition variables affected both acceptance and social behavior outcomes. Particularly, teacher attitudes toward education, peer attitudes toward school, and percentage of peers with reading problems predicted higher social acceptance for EMR children in regular classes. Additionally, higher acceptance of EMR children was found in urban schools and in classrooms with high percentages of non-Anglo students. Antisocial behavior was associated with classrooms with Anglo, highly verbal teachers, and inexperienced teachers.

Findings for other environmental variables were also important. Instructional conditions associated with differential outcomes included teacher directiveness and grouping strategies. Specifically, high teacher

directiveness was associated with relatively less variance in social behavior (that is, less positive and negative behavior). Large group instruction was associated with more acceptance and less rejection of EMR children.

The clearest findings related to social outcomes were obtained on socio-emotional climate variables. Here it was found that the cohesiveness of the classroom social environment was consistently associated with higher levels of peer acceptance. Specifically, peer harmony was related to positive social outcomes for all groups, while peer disliking was negatively related to these outcomes. Disliking was also related to higher levels of antisocial behavior.

#### Summary of Research on Educational Environments

Recent research on analysis of educational environments has demonstrated that reliable and "wholistic" descriptions of classroom ecologies may be obtained through questionnaire and observation methods (Barker & Gump, 1964; Kaufman et al., 1978; Moos, 1979a). Further, it is apparent that typologies may be developed which organize the characteristics of classroom environments in a psychologically and educationally meaningful way (Moos, 1976; 1979). Finally, the validity and utility of directly assessing variables related to the social-psychological characteristics of classroom environments is supported by research showing relationships between these environmental characteristics and important student outcomes (Forness et al., 1982; Kaufman et al., 1978; Moos & Moos, 1978).

#### Revitalization of Research on Special Education Environments

The central argument advanced in this review has been that policy issues related to the effects of mainstreaming, identifying least restrictive environments, and other problems concerned with the effects of specific types of educational environments on child outcomes, will not be successfully resolved without a shift in conceptual and methodological approaches to

analysis of special education environments. It appears that research on the effects of educational environments must be broadened in both concept and method if data which are useful for complex policy decisions, as well as individual program planning, are to be generated. Several characteristics of such research may be summarized on the basis of the literature reviewed.

First, research on effects of special education environments is likely to be more productive to the extent that it is multivariate in concept, design, and analysis. Clearly the monothetic conceptualizations of differences between classroom environments which have typified most special education research to date represent a serious oversimplification of the characteristics of these environments. For example, while there exists substantial empirical evidence to support the proposition that differences in child outcomes are related to some specific instructional models (i.e., the direct instructional and cooperative learning models), no existing model appears to produce superior learning across all curriculum domains. Multiple attribute or polythetic conceptualizations (Sokal, 1974) will undoubtedly yield more reliable and valid strategies for identifying pedagogically important differences among classrooms. The most widely used instruments developed for the analysis of regular education environments, Moos and Trickett's CES and Anderson and Walberg's LEI, both exemplify polythetic models of the classroom environment. The usefulness of such instruments in explaining variance in child performance related to environmental factors (Moos, 1979a) suggests that similar strategies might well be attempted in special education research.

A second characteristic of a revised approach to the analysis of special education environments should be an increased empirical focus on variables of more direct pedagogical significance than those categorized under administrative arrangements. Instructional design variables related to goal structure and engaged time clearly merit inclusion in any strategy for



measuring pedagogically relevant dimensions of special education classroom environments. However, there has been relatively little work aimed at scaling either qualitative or quantitative aspects of these variables in classrooms. Assessing the extent to which classroom environments reflect use of one or another of these instructional models will be important if researchers are to be able to accurately describe natural variation in environmental characteristics. That is, dichotomous categorization of classrooms into, for example, "individualistic" versus "cooperative" comparison groups will not lead to accurate and externally valid information about what is likely to be a somewhat continuous distribution of these characteristics across classrooms. These issues are analogous to general problems with the use of "laboratory" research results in formulating social policy (Brofenbrenner, 1977; Brunswik, 1956).

A third characteristic of a revised approach to analysis of special education environments should be an increased consideration of contextual factors, and interrelationships among these, in evaluating the impact of specific environmental characteristics on child learning and performance. We assume the use of multivariate approaches to the measurement and categorization of environments, as discussed above. Moos (1979a) has provided an example of the importance of considering contextual factors in interpreting the meaning of specific environmental phenomena. He noted that classrooms rated as high in competition were perceived more positively by students depending on the extent to which those classrooms were also characterized by warm and supportive teacher-student and student-student relationships. What is suggested here is that the meaning of a given environmental characteristic can only be defined in context; that meaning is derived from the interrelationships between environmental characteristics - not those



characteristics in isolation (Bateson, 1979; Mishler, 1979). The notion that classroom environments should be viewed more wholistically is consistent with shifts toward more organismic conceptual frameworks for understanding phenomena in other fields of scientific endeavor (Dennenberg, 1979; Miller, 1978; Whitehead, 1925).

#### A Research Agenda

Development of research methodologies consistent with the criteria identified above will allow several important types of questions to be pursued related to the effects of special education environments. These may be organized in terms of several general and somewhat overlapping goals (Moos, 1979a): a) description of natural variation in environmental characteristics, b) development of empirically-based classification and taxonomic models for environments, c) comparison of specific environments or types of environments, and d) intervention toward improvement of environments. Each of these research goals has importance to the field of special education.

Descriptive research. An important objective for research aimed at analysis of special education environments will be the accumulation of a data base describing normal variations in classroom characteristics of theoretically or empirically identified importance. While experimental manipulation of variables hypothesized to have effects on child outcomes may demonstrate the possibility of effects due to these variables, the extent to which such variables actually impact children in natural settings can only be assessed through direct verification of their existence and operation in representative samples of special education classroom environments (Brofenbrenner, 1977). For example, while it is clear that various goal structures can have important effects on child performance, the extent to which competitive, individualistic, or cooperative goal structuring actually characterize special education classrooms remains unknown. Descriptive

research will also provide important normative data on which further taxonomic, comparative, and intervention research may be based.

A second goal of research on special education environments should be the development of empirically-based classification or taxonomic models for classroom environments. Identification of classroom "types" constructed around pedagogically important variables would represent an important step toward describing interactions between environments and specific child outcomes. This achievement would, of course, provide a more meaningful means of identifying a "least restrictive environment" fit to defined child needs than have traditional administrative distinctions between environments. An important advantage to developing a polythetic typology of special education environments would be the organization of the plethora of variables of potential educational importance into naturally covarying classes (i.e., setting types). The reduction of data achieved through this process promises to facilitate use of the classroom as a unit of analysis for comparative and intervention research.

A third general goal of special education research consists of obtaining comparative data on characteristics of various classroom environments. Numerous questions for comparative research on environments are suggested from the traditional special education literature. These include comparisons of classroom environmental differences due to: a) class size (Walberg, 1969a), b) instructional or curriculum models (Stallings, 1975), and c) peer and teacher characteristics (Brophy & Good, 1974). Clearly comparative research must also be carried out to assess differences in child outcomes associated with various types of classroom environments defined through taxonomic studies as suggested above. To the extent that these differences in outcomes due to classroom type are found to be reliable, a important comparative research

question involves whether classroom environment types are distributed normally within administratively defined categories of special education service settings. This strategy may produce some of the long sought empirical evidence regarding differences between mainstream and self-contained special education environments, since within category variance in classroom environment characteristics would be systematically analyzed rather than designated as error. This research could, of course, provide an empirical meaning to the notion of "least restrictive environment" when considered in context of priorities for specific child outcomes (Peck & Semmel, 1982).

A fourth goal of research on special education environments is the development of replicable interventions aimed at improving the characteristics of those environments. Priorities for environmental intervention may be identified from either the descriptive, taxonomic, or comparative research described above. For example, descriptive research may identify characteristics of specific classroom environments, such as high rates of teacher-or-peer mediated criticism or punishment, which may warrant intervention. Taxonomic research may identify types of special education settings, Moos' "control- oriented" type, for example, which suggest specific intervention programs for these classrooms. Comparative research may show that specific environmental characteristics (e.g., peer cohesiveness) may be associated with desirable outcomes - suggesting the need for interventions to improve this aspect of some classroom environments.

#### Conclusion

The evolution of the field of special education over the past ten years serves as an interesting exemplar of the complex relationship between science and public policy (Semmel, in press). A relative deluge of socio-legal constraints on both empirical science and professional practice has resulted from significant cultural change leading to the affirmation of the civil

rights of handicapped children. In the midst of this era of social upheaval, it has been particularly difficult to remain objective in making professional distinctions between objective "truths" and ideological "rights" in regard to the education of handicapped children. It is naive to submit to "the myth that science itself is an objective enterprise, done properly only when scientists can shuck the constraints of their culture and view the world as it really is" (Gould, 1981, p. 21).

Current research and practice in the field of special education has been shaped by major socio-legal factors. Legislation (e.g., Public Law 94-142) has imposed a set of requirements designed to protect the rights of handicapped children in the schools. These mandates have focused educational delivery systems on "compliance" issues related to assuring these rights. Hence, educational environments have been constructed and maintained following the criteria of adherence to law, but not necessarily following criteria related to the effectiveness of special education environments. In fact, the overwhelming influence of law has resulted in the adoption of a "legal" lexicon and conceptualizations of the field which correspond to the compliance objective.

This state of affairs is reflected in a confusion among researchers relative to distinctions between promising environmental research variables and ideological constructs. For example, researchers frequently refer to LRE as a construct represented by the extent to which a handicapped child is appropriately integrated with normal pupils. There is the inference that the more time integrated, the greater the expected positive educational outcomes. It is more appropriate to recognize that amount of time integrated is but a single environmental variable which, by law, must be maximized to the greatest extent possible, but which may or may not have impact on pupil academic and/or

social growth.

Most researchers, in designing empirical studies of the influence of special education environments on handicapped pupils, have uncritically adopted the administrative variables (e.g., special class, resource room, regular "mainstream" class) which generally reflect legal conceptions of LRE. Although critics of contrastive, between-group designs have repeatedly pointed to the wide variation that exists within administrative arrangements; and have underscored the overlap between such distributions, they have not generally offered alternative educationally relevant conceptualizations and research strategies. In fact, we frequently find an unconscious adherence to the assumption that "administrative arrangement" is a particularly important contextual research variable. In calling for analysis of variation "within-group," they implicitly allude to variation with extant administrative arrangements as "within-group" contrasts (e.g., variations among "mainstreaming" regular classes, variations among special classes).

The great danger in our current social context lies in a propensity to invoke law and ideology as the sources of verification for the effects of educational environments on handicapped pupils. These sources can only aspire to verify that educational environments are in compliance with the mandated "rights" of handicapped students, and to appropriately reflect a superordinate social value system. In contrast, only empirical research results, acceptable to both science and the law, can verify the educationally relevant effects of special education environments.

Certainly the final worth of any empirical approach to the analysis of educational environments must be evaluated on the basis of the effectiveness of the interventions it produces. We suggest that the prospects for improving the ability of special education researchers to effectively identify and alter characteristics of classroom environments toward maximizing the growth and

adjustment of handicapped children rests with the ability to more broadly and flexibly conceptualize and measure the nature of those environments. The issues and promising directions in research reviewed in the present chapter imply that this is an achievable goal.

## APPENDICES



## LEGAL AND HISTORICAL OVERVIEW

The concept of "Least Restrictive Environment" is relatively new in educational theory (Dybwad, 1980). Historically, the courts have applied the doctrine of the Least Restrictive Alternative to a variety of constitutional questions (i.e., due process, equal protection, commerce clauses, and the First and Eighth Amendments). The LRA principle has its origins in a case decided by the US Supreme Court: Dean Milk Co. v. Madison (1951). In that case, the city of Madison, Wisconsin, attempted to prohibit in the city the sale of milk that was processed more than 25 miles outside the city. The Supreme Court struck down the ordinance because it unnecessarily discriminated against interstate commerce when "reasonable nondiscriminatory alternatives, adequate to conserve legitimate local interests, are available." The courts have also applied the doctrine to other cases of excessive governmental intrusion. See for example: Dunn v. Blumstein (1972) the right to vote under equal protection scrutiny; U.S. v. Robel (1967), citing NAACP v. Button (1963) freedom of association; Griswold v. Connecticut (1965) right of privacy under due process scrutiny; Sherbert v. Verner (1963) freedom of religion; Talley v. California (1960) freedom of speech; and Kent v. Dulles (1958) right to travel. The Supreme Court's most clearly articulated statement of the doctrine came in its ruling in Shelton v. Tucker, 364 U.S. 479 (1960), to be discussed in more detail in the body of this paper.

The courts were historically willing to apply the LRA doctrine in those cases where "state action" (i.e., government activity) infringed upon constitutional rights. The concept of LRA is based on the premise that government action must not intrude upon constitutionally protected interests (freedom of speech, religion, etc.) to a degree greater than necessary to achieve a legitimate purpose.

The extension of the application of the LRA/LRE concept to the education of handicapped children required the courts to accept the contention that handicapped children are entitled to a free public education appropriate to their needs, and that such education has been denied them due to statutes and court rulings that have kept them in segregated schools or excluded them entirely from the educational process. As a result, the handicapped child's constitutionally guaranteed rights of due process and equal protection of the law have been held to have been violated. The incorporation of the LRE doctrine into cases involving the education of handicapped children cannot, therefore, be understood without first examining the cases that set precedents in the areas of the right to treatment, and the right to an education.

Additionally, it must be noted that the adoption of the LRE concept into court rulings and statutory laws encompasses more than constitutional guarantees of equal protection, due process, and so forth. Underlying the doctrine are clear assumptions as to the socialization function of schools and the role of LRE in

achieving the integration of society. Therefore, the concept of the LRE must not be analyzed solely in the context of its statutory and legal evolution, but also must be examined in its sociological framework. This becomes particularly clear when the frame of analysis switches from the legal to the legislative arena, and when addressing the question of implementation.

In order to study and apply recent court decisions relating to the implementation of the LRE concept, it is necessary to review the historical judicial decisions which formed the framework upon which current LRE policy and legislation is based. Thus, we offer a broad historical overview of the various phases of judicial and legislative thinking that led to the adoption of the concept of the Least Restrictive Environment in the field of education. The historical approach is especially relevant in studying the evolution of American educational policy as it relates to the education of handicapped children. This is because the displacement of old judicial rulings and legislation continually reflects changes in the current social-political zeitgeist. Thus, general policy direction of early U.S. educational policy regarding the handicapped emphasized segregation or exclusion. Over the last 20 years a gradual shift in the direction of legal and judicial decisions has occurred, the result of which has been the current policy favoring the LRE in the education of the handicapped.

#### Early Educational Policy Regarding Children with Handicaps

The legal precedent for the right of the handicapped

children to a free appropriate public education was not established until the early 1970's (Mills v. Board of Education, 1972; Pennsylvania Association for Retarded Children (P.A.R.C.) v. Commonwealth of Pennsylvania, 1971). Until this time there was little legal redress for the handicapped child segregated from his/her peers or excluded from the educational system altogether. In Beattie v. Board of Education (1919) the Wisconsin Supreme Court ruled that the school board could exclude from regular public school classes a 13-year old child because "his physical condition produced a depressing and nauseating effect upon the teachers and school children." Such exclusion was not the exception but the rule. In Watson v. Cambridge (1893), the court ruled that a child, having such slow mentality that he was unable to profit from school attendance and that he interfered with the rights of others, could be denied the privilege of attending school with normal children and required to attend special schools. Exclusionary policies remained the rule as late as 1974 when in fact, the Congress found that:

"more than half of the handicapped children in the United States do not receive appropriate educational services which would enable them to have full equality of opportunity; . . . one million of the handicapped children in the United States are excluded entirely from the public school system and will not go through the educational process with their peers" (P.L. 94-142, 20 USC 1401 Sect 3b).

Many means have been employed to exclude the handicapped child from receiving an effective education. Different admissions standards were used for handicapped children. Funds

were frequently insufficient, and procedural due process guarantees were rarely satisfied in cases involving exclusion, placement, transfer or labelling. Ultimately, many states practiced total exclusion for the children labeled "ineducable" and "subtrainable" (Gilhool, 1976). Such classifications were based on the prevalent notion in the 1930s - 1950s that some retarded children could not learn, or more properly "could not be taught" (Gilhool, 1976).

### Segregation and Equality of Educational Opportunity

It was not until the racial segregation decisions of Brown v. Board of Education (1954) and Bolling v. Sharpe (1954) that the United States Supreme Court addressed the issue of the need for equal educational opportunity. In Brown v. Board of Education, the Court stated that:

"education is a principle instrument in awakening the child to cultural values, in preparing him for later . . . training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education . . . (W)here the state has undertaken to provide (education), (it) is a right which must be made available to all on equal terms" (Brown v. Board of Education, 1954, 493).

This ruling represented a critical recognition that the impact of schooling went beyond achievement of academic competencies alone. The injury suffered due to educational separation by racial minorities, was conceptualized as having long range effects on both the individual and society. Although not as devastating as total exclusion from the educational process, separation of

students based on race from the "mainstream" of their peers was viewed as likely to leave lasting scars and to be antithetical to the goals of a just and free society. As the Court stated in the Brown decision:

"To separate them . . . generates a feeling of inferiority . . . that may affect their hearts and minds in a way unlikely ever to be undone. 'Segregation' has a detrimental effect upon . . . the children. The policy of separating (them) is usually interpreted as denoting . . . inferiority. (In) the field of public education, the doctrine of 'separate but equal' has no place." (Brown v. Board of Education, 347 US 483, 494-495).

In Bolling v. Sharpe (1954), the Court ruled de jure segregation as unconstitutional and construed "liberty" as encompassing a student's interest in obtaining an education.

"Although the Court has not assumed to define 'liberty' with any great precision, that term is not confined to mere freedom from bodily restraint. Liberty under law extends to the full range of conduct which the individual is free to pursue, and it cannot be restricted except for a proper governmental objective" (Bolling v. Sharpe, 347 US, 497, 1954).

Both of these decisions were essential to the movement away from educational exclusion of certain classes of children and toward the rulings in the right to education cases of P.A.R.C. (1972) and Mills (1972).

However, the movement from the equal educational opportunity ruling in Brown (1954) and Bolling (1954) toward acceptance of the right to an appropriate education for the handicapped guaranteed in P.A.R.C. and Mills was not an easy nor direct step. Brown did not establish a right to education *per se*, but rather a

right to equalized treatment for all who "qualify" for publicly supported education under the laws and regulations of the various states. In contrast, the handicapped were seeking the right of access to education. Access or the ability to "qualify" for publicly supported education, was an elusive goal for a large number of handicapped children. Given the absence of safeguards to educational access in the US Constitution, the handicapped were dependent on the states and localities to provide them with an education. But given the negative attitude of society toward the handicapped (Gottlieb, 1975a), access to educational facilities was very limited. In fact, before 1971, only seven states had mandatory education legislation covering handicapped children (Roach, 1978).

Although education is not a fundamental right (San Antonio Independent School District v. Rodriguez, 1973) it is given constitutional protection under the due process and equal protection clauses of the Fourteenth Amendment.

" . . . The due process clause of the Fourteenth Amendment. . . requires that state action (which would include education) shall be consistent with the fundamental principles of liberty and justice which lie at the base of all our civil and political institutions and not infrequently are designated as 'law of the land'."

The state has the responsibility for protecting the individual from injustice imposed by society. Where the state has undertaken to provide a benefit to the people, the benefit must be provided to all people on equal terms. If the state



discriminates between groups of people or an individual, there must be sufficient justification or the state action will be struck down as unconstitutional. In applying the equal protection clause of the Fourteenth Amendment to the schools, the courts have used two tests:

- (1) the rational basis test, wherein the state must demonstrate simply that the challenged classification bears some rational relationship to a legitimate governmental goal. The presumption of constitutionality here, rests with the state action.
- (2) the second "test" is referred to as the strict scrutiny test. Legislation is vulnerable to this stringent test when the state violates a fundamental interest or when the legislation involves a suspect class. Under this test, the state must prove that its action is necessary to achieve a compelling interest. Thus, the burden of proof is on the state. (For a more in-depth analysis of this issue, see Alschuler, 1978; Turnbull, 1981).

To exclude the handicapped from compulsory education requirements is nothing less than excluding them from any opportunity to be responsible and active citizens in society. The vital role of education in contemporary American society was elucidated in Brown and the other right to education cases of the 1950s. In addition, it has been argued that exclusion of children with handicaps from education may imperil protected rights which are not even at stake for the average individual. Most specifically, liberty in the form of freedom from institutionalization is at stake:

"The exceptional child without an education is not merely in jeopardy "of success" as the Supreme Court put it, but liberty and life itself. You know very well that the rate of institutionalization among those children who have been deprived of a public education is considerably higher. And you know as well that the death rate at those institutions among children who have not had the opportunity of an education which would produce for them those selfhelp skills that enable them, for example, to avoid scalding hot water, has resulted in a higher rate of death itself." (cited in Flanagan, 1974, p. 4533).

The handicapped warrant protection, for their need for education is vital to their ability to sustain their liberty.

But access to any form of education, it is further argued, is clearly not enough. Access to an "inappropriate" education can be the equivalent to functional exclusion from education entirely. Thus, advocates for the handicapped have used the concept of the LRE in the education of handicapped children in hopes of securing an education appropriate to their individual educational needs while maintaining maximum contact with nonhandicapped children. However, successful application of the LRE doctrine by the Supreme Court and other courts in the sphere of education is dependent upon the courts' acceptance of the handicapped as a suspect class. This classification is essential because the use of LRA occurs only when the regulation at issue affects interests that are considered especially sensitive under the Constitution (e.g., free speech) or are directed at groups against whom discrimination is regarded with suspicion by the court (suspect classes).

In San Antonio Independent School District v. Rodriguez

(1973) the United States Supreme Court set forth criteria for determining a suspect class:

"(a) class . . . saddled with such disabilities, or subject to such a history of purposeful unequal treatment, or relegated to such a position of political powerlessness as to command extraordinary protection from the majoritarian political process."

The goals of both the minority students in the segregation cases, and of the handicapped in the right to education cases involve the same issues of suspect classification and equal protection:

"Just as blacks sought to undo the feelings of inferiority engendered by segregated schools so that they might feel as confident about their own identities and capabilities as white students, the handicapped sought the right to obtain the confidence and productivity which the school systems allowed only to the nonhandicapped" (Haggerty & Sacks, 1978, p. 963).

Nevertheless, the question of whether or not handicapped children are entitled to a free appropriate public education was not decided until after a number of right to treatment cases enlightened the Congress and the judiciary to the extent of the denial of liberty, equal protection and due process guarantees of the handicapped. The adoption of the doctrine of the LRE in the education of handicapped children was an extension of the application of the LRA/LRE concept used in the institutionalization of the handicapped.

#### Early Use of the LRE/LRA Doctrine

One of the clearest early judicial uses of the LRA/LRE

concept came in 1960 in the case Shelton v. Tucker (1960). This case involved a number of issues concerning an Arkansas statute requiring a teacher to file annually an affidavit listing every organization he/she belonged to or regularly contributed to in the preceding five years. In its opinion, the Supreme Court ruled on the question of the deprivation of liberty and thus, spelled out a clear statement of the LRA/LRE.

"Even though a governmental purpose be legitimate and substantial, that purpose cannot be pursued by means that broadly stifle fundamental personal liberties when the end can be more narrowly achieved; the breadth of legislative abridgement must be reviewed in the light of less drastic means for achieving the same basic purpose."

The LRA doctrine found its initial expression in mental health litigation in 1966 in the Circuit Court's decision in Lake v. Cameron. Mrs. Lake, institutionalized due to a "chronic brain syndrome" associated with aging, did not contest the legality of the decision to impose treatment, but rather, argued that more "appropriate" treatment was available in a less restrictive setting than the "total confinement" of Saint Elizabeth's Hospital. The court ruled that:

"deprivations of liberty solely because of dangers to ill persons themselves should not go beyond what is necessary for their protection."

Three federal court decisions have similarly held that prior to involuntary hospitalization of mentally ill people, the Constitution requires a demonstration that there are no suitable, less restrictive alternatives possible (Covington v. Harris,

1969; Lessard v. Schmidt, 1972).

### Right to Treatment

A number of court cases have dealt with the right to treatment of persons constrained to restrictive environments (Marterella v. Kelley, 1922; O'Connor v. Donaldson, 1975; Wyatt v. Aderbelt, 1974; Wyatt v. Stickney, 1971). The outcome has been protection against the kind of institutionalization in which treatment is not rendered. In Wyatt v. Aderbelt the court ruled that ". . . the right to treatment arises as a matter of federal constitutional law under the due process clause of the Fourteenth Amendment." Restriction of a person's liberty without treatment is not justified and therefore, illegal:

"To deprive any citizen of his or her liberty upon the altruistic theory that the confinement is for humane therapeutic reasons and then fail to provide adequate treatment violates the very fundamentals of due process." (Wyatt v. Stickney, 1971, at 785).

In Wyatt v. Stickney (1971) the court declared the right of each resident to a program of habilitation (including education) that is reasonably calculated to realize the residents' capabilities. Furthermore, the court held that each resident must be provided a written, individualized plan of treatment. In addition, the court held that the treatment must be provided in the least restrictive setting possible. In terms of adequate and effective treatment, the court described three fundamental conditions that must be met. These included the provision of: 1) a humane psychological and physical environment, 2) qualified

staff in numbers sufficient to administer adequate treatment, and 3) individualized treatment plans. In essence, the courts were saying that bona fide treatment must be made available:

"Adequate and effective treatment is constitutionally required because, absent treatment, the hospital is transformed 'into a penitentiary where one could be held indefinitely for no convicted offense . . .'. The purpose of involuntary hospitalization for treatment purposes is TREATMENT and not mere custodial care or punishment. This is the only justification, from a constitutional standpoint, that allows civil commitments to mental institutions..." (Wyatt v. Stickney, 1971).

On June 26, 1975, in O'Connor v. Donaldson, the US Supreme Court ruled on the first right to treatment case to reach the high court. In a unanimous ruling, the Court upheld a damage award against a superintendent of a Florida mental institution who had failed to return to the community a man who was dangerous neither to himself or others.

Clearly in these right to treatment/right not to be unnecessarily institutionalized cases, the courts have traveled a great distance in guaranteeing certain rights to handicapped people. Guarantees of due process, equal protection and the adoption of the LRA principle have given the handicapped legal precedents and guarantees needed to more effectively pursue decent and effective treatment with a minimal intrusion on their liberty.

## Developments in Education: Rights to Free Appropriate Public Education

These developments promoted litigation and legislation in right to education cases for the handicapped as well as the application of the doctrine of LRE in the educational decisions for handicapped children.

The two most important cases guaranteeing the right of handicapped children to a free appropriate public education are P.A.R.C. and Mills. Both cases were significant in establishing the LRE concept for the education of the handicapped. E.B. Nyquist, New York State Commissioner of Education, clearly expressed the rationale for integrated education in relation to society as well as to the education of the children involved:

"in a very real sense, school is a microcosm of society which teaches the child society's values. In a mainstreamed classroom, the school transmits certain humane and compassionate values to each child. At the same time, as the child adopts these values, the shape and form of the society he and his peers will create is enhanced" (cited in Englehart, 1976, p. 55).

In the P.A.R.C. consent decree, the importance of an integrated education was clearly stated. The issue involved was the claim that exclusion of retarded children from education and training in public schools in Pennsylvania was unconstitutional. The consent decree resolving the class action suit established a strong basis on which the rights of handicapped children to a free appropriate public education would be argued.

The consent decree in P.A.R.C. addressed the question of the



violation of due process because a retarded person could be excluded from regular education without notice and a hearing (P.A.R.C., 1972). Thus, it was argued that the state, having undertaken to provide public education to some children, could not deny it to retarded children entirely. The consent decree established explicit due process and equal protection guarantees. In a finding of direct importance to the adoption of LRE in education, it was asserted that there existed no rational basis for the total exclusion of retarded children from the state's public education. In essence the court decided that the state must provide an education "appropriate to the child's capacity" whether or not the child was mentally retarded:

"Expert testimony in this action indicates that all mentally retarded persons are capable of benefitting from a program of education and training; that the greatest number of retarded persons, given such education and training, are capable of achieving self-sufficiency, and the remaining few, with such education and training, are capable of achieving some degree of self-care; that the earlier such education and training begins, the more thoroughly and the more efficiently a mentally retarded person will benefit from it; and, whether begun early or not, that a mentally retarded person can benefit at any point in his life and development from a program of education and training. . .

Having undertaken to provide a free public education to all of its children, including its mentally retarded children, the Commonwealth of Pennsylvania may not deny any mentally retarded child access to a free public program of education and training.

It is the Commonwealth's obligation to place each mentally retarded child in a free, public program of education and training appropriate to the child's capacity, within the context of a presumption that, among the alternative programs of education and training required by statute to be available, placement in a regular public school class is preferable to placement

in a special public school class and placement in special public school class is preferable to placement in any other type of program of education and training" (P.A.R.C., 1972, at 307).

The consent decree in P.A.R.C. developed the major themes in the right to education for handicapped children. It accepted the proposition that all mentally retarded children are capable of learning and, that all are entitled to an appropriate education. Moreover, as exemplified above, certain kinds of placements were to be preferred over others representing adoption of the LRE doctrine as educational policy for the children with mental retardation.

The P.A.R.C. case was extensive both in its scope and its guarantees to the mentally retarded citizens of Pennsylvania. However, since the case was concluded by an agreed settlement, the Court did not rule on the merits of the plaintiffs' claims. Secondly, the litigation was brought on behalf of mentally retarded children and therefore, the "guarantees" established in the consent decree were not directly extended to all handicapped children. It took further court action on behalf of the handicapped to guarantee these rights.

The major case which granted these rights was Mills v. Board of Education of the District of Columbia (1972). Mills was a class action suit brought on behalf of seven school children labeled as mentally retarded, emotionally disturbed, hyperactive, behavior disordered or otherwise impaired, who were excluded for educational programs. The suit sought an injunction restraining

the D.C. Board of Education from excluding such children from the public schools or denying them publicly supported education. The Mills case represented the first time a federal court ruled on the constitutional issues raised in P.A.R.C.

The court, in deciding on the merits in the Mills case, found that the failure to provide publicly supported education to the plaintiffs while providing education to other children violated the equal protection guarantees provided for in the due process clause of the Fifth Amendment. Furthermore, the court held that due process required that these children must be afforded a hearing prior to exclusion, termination, or classification into a special program. As a result, the equal protection premise of the Brown decision was extended to the handicapped, and the District of Columbia was required to provide all mentally, physically, and emotionally impaired children with an appropriate publicly supported education:

"The District of Columbia shall provide to each child of school age a free and suitable publicly-supported education regardless of the degree of the child's mental, physical or emotional disability or impairment. Furthermore, defendants shall not exclude any child resident in the District of Columbia from such publicly-supported education on the basis of a claim of insufficient resources. . .

Each member of the plaintiff class is to be provided with a publicly-supported education program suited to his needs, within the context of a presumption that among the alternative programs of education, placement in a regular public school class with appropriate ancillary services is preferable to placement in a special school class" (Mills v. Board of Education, 1972, at 878, 880).

The court delineated several elements which are important for a theory of equal educational opportunity for the handicapped:

1. Zero reject: the school district cannot exclude children on the basis of handicap or "insufficient" resources.
2. Individualized assessment and placement: each child is entitled to an individual assessment to the educational needs and the proper educational program for that child.
3. Notice and hearing: all placements in special educational programs must be preceded by notification to the child's parents of the right to a hearing if they object to the proposed placement. The school board bears the burden of proof as to the appropriateness of placements and transfers.
4. Least restrictive environment: a clear determination that the education of handicapped children should be provided for the "most normal" or least restrictive setting appropriate for the education of the child. With preference on placement in the regular class (with ancillary services) unless clearly determined inappropriate (Mills v. Board of Education, 1972, at 878 to 882).

The Mills case additionally extended the scope of the due process and LRE requirements found in P.A.R.C. to incorporate not only mentally retarded children, but all handicapped children.

#### Quality of Educational Opportunity

One result of P.A.R.C. and Mills was the reexamination of the definition of equal educational opportunity. It was argued that, unlike normal children, handicapped children may be in danger of never learning without a structured education. Thus, an inadequate education that does not teach handicapped children to care for themselves may have far more dire

consequences--possible institutionalization or loss of liberty--than its effect on normal children. Thus, an appropriate education for the handicapped seems to imply an education that is more than just minimally adequate.

"In the case of handicapped students, failure to receive an education that permits them to learn to cope and function adequately within as normal an environment as possible, might demonstrate that quantum of educational harm which is violative of equal educational opportunity" (Weintraub & Abeson, 1972, p. 1046).

Testing the issue in the case of Fialkowski v. Shapp (1975), multiply handicapped students brought an action in the federal district court alleging that they were being offered educational programs that could not possibly benefit them. The plaintiffs were in essence alleging a complete denial of educational opportunity. The court, in ruling that there is a constitutional right to a certain minimum level of education, helped to further the examination of qualitative issues related to equal educational opportunity. In this case the court stated:

"An educational program must be assessed in terms of its capacity to equip a child with the tools needed in life . . . Placement of children with the intelligence of two year olds in a program which emphasizes skills such as reading and writing would seem inadequate for their needs. The harmful consequences of denying plaintiffs an adequate education is underscored by the fact that mentally retarded children have greater needs for formal education since they are less likely than ordinary children to learn and to develop informally" (Fialkowski, v. Shapp, 1975, at 95).

Many of the principles articulated in the P.A.R.C., Mills, and Fialkowski cases were later reaffirmed in Hairston v.

Drosick (1976). Parents of a child who suffered from spina bifida brought action challenging the refusal of the school district to admit the child to the regular public classroom. In his decision, the judge stated the following:

"A child's chance in this society is through the educational process. A major goal of the educational process is the socialization process that takes place in the regular classroom, with the resulting capability to interact in a social way with one's peers. It is therefore imperative that every child receive an education with his or her peers insofar as it is at all possible. This conclusion is further enforced by the critical importance of education in this society.

It is an educational fact that the maximum benefits to a child are received by placement in as normal environment as possible. The expert testimony established that placement of children in abnormal environments outside of peer situations imposes additional psychological and emotional handicaps upon children which, added to their existing handicaps causes them greater difficulties in future life. A child has to learn to interact in a social way with its peers and the denial of this opportunity during his minor years imposes added lifetime burdens upon a handicapped individual" (Hairston v. Drosick, 1976, at 183).

### Legislative Change

After the success of the right to education cases (P.A.R.C. and Mills) and judicial acceptance of the LRE doctrine in education of the handicapped, the focus of policy change shifted to the U.S. Congress. Statements by Senators Humphrey and Stafford exemplify the support for the handicapped in Congress in the early 1970's.

"This bill responded to an awakening of public interest in millions of handicapped children, youth, and adults who suffer the profound indignity and despair of isolation, discrimination, and maltreatment. It is essential that the right of these forgotten Americans to equal protection under the laws be effectively



enforced . . . " (Humphrey, cited in LRE, 1979).

"For far too long handicapped children have been denied to the regular school system because of an inability to climb the steps to the school house door, and not for any other reason. This has led to segregated classes for those children with physical handicaps. This is an isolation for the handicapped child and for the "normal" child as well. The sooner we are able to bring the two together, the more likely that the attitudes of each toward one another will change for the better.

I firmly believe that if we are to teach all of our children to love and understand each other, we must give them every opportunity to see what 'different' children are like" (Stafford, cited in LRE, 1979).

During this period three important pieces of legislation passed the Congress and were enacted into law. The Rehabilitation Act of 1973 (Section 504), the Education of the Handicapped Amendments of 1974, and the Education for all Handicapped Children Act (PL 94-142) all addressed the questions raised in the right to education cases of P.A.R.C. and Mills. The incorporation of due process and equal protection guarantees, as well as the doctrine of LRE, into statutory law finally gave handicapped children the protection of law. Statutes, in contrast to court orders, can carry with them the necessary funds and mandates for change that enable the states and localities to create the needed service alternatives (Turnbull, 1981).

Before 1971, mandatory education legislation covering all handicapped children existed only in seven states (Roach, 1978). The Congress did not act on behalf of handicapped children to any great degree until 1965, with the passage of PL 89-313. PL 89-313 amended Title I of the Elementary and Secondary Education



Act (ESEA), establishing grants to state agencies responsible for providing free public education for handicapped children. Later amendments to ESEA helped to provide funds to the states to expand programs and projects to help meet the special education needs of the handicapped. In 1968, the Handicapped Children's Early Education Assistance Act became law. The Act was designed to establish early education programs for the handicapped to serve as models for state and local educational agencies.

These actions were limited in their effectiveness in securing the handicapped an appropriate education. As the right to education cases of P.A.R.C. and Mills (and the dozens of cases that they spawned, see Miller & Miller, 1979) clearly showed, the handicapped were not afforded an adequate education, nor were they guaranteed due process or equal protection of the law. Congress had to do far more if the handicapped were to be provided an appropriate public education. It was not until after the P.A.R.C. and Mills decisions that Congress acted, but the legislation that was passed was both historical in its granting of rights and guarantees to handicapped children, and significant in its ultimate effect on public education.

The first action by Congress to adopt into federal law the rights articulated in courts came with adoption of Section 504 of the Rehabilitation Act of 1973. Section 504 was adopted unanimously by Congress and signed into law on September 26, 1973. The section states

"No otherwise qualified handicapped individual in the

United States as defined in Section 7(6), shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance" (29 U.S.C. 794; Supp. V, 1975).

Section 504 reflects verbatim the provisions of Title VI of the Civil Rights Act of 1964 and extends to all handicapped people the protections previously extended on the grounds of race and national origin, namely, prohibition of exclusion, denial of benefits, and discrimination under federally assisted programs and activity (Gilhool & Stutman, 1979). The Congress' choice of Title VI language clearly suggests that the intent of Section 504 was nothing less than the end to the segregation of handicapped people.

The subject of education is dealt with in subparts D and E of the regulations of Section 504. Subpart D explicitly acknowledges the importance of the right to education cases of the early 1970's (Stafford, 1978). In addition, the regulations provide guarantees for the handicapped child to a free public education in the least restrictive environment. The regulations state:

"(1) that handicapped persons, regardless of the nature or severity of their handicap, be provided a free, appropriate public education, (2) that handicapped students be educated with nonhandicapped students to the maximum extent appropriate to their needs, (3) that educational agencies undertake to identify and locate all unserved handicapped children, (4) that evaluation procedures be improved in order to avoid the inappropriate education that results from the misclassification of students, and (5) that procedural safeguards be established to enable parents and guardians to influence decisions regard-

ing the evaluation and placement of their children" (Stafford, 1978, p. 81).

The regulation also states that the objective is to ensure that no child is denied education in public school if schooling is appropriate; and, that if his or her needs cannot be met in the regular class, a suitable alternative will be provided at no expense to the parents.

Section 504 represented a major step in guaranteeing handicapped children access to the public education system. With inclusion of the LRE doctrine and due process provisions, Section 504 became a cornerstone of the movement to secure statutory guarantees for the handicapped. The major court cases (e.g., P.A.R.C. and Mills) not only increased public and Congressional awareness of the handicapped child's needs, but also made clear the need for substantial federal assistance to the states to secure the rights of the handicapped child.

The perceived need was so great that while the comprehensive legislation concerning the education of the handicapped was taking final shape, Congress passed an emergency measure (PL 93-380) to secure full educational opportunities for the handicapped. PL 93-380 consisted of the Education of the Handicapped Amendments to the Elementary and Secondary Education Amendments of 1974. The Amendments included funding provisions as well as procedures and requirements to insure utilization of the handicapped child's right to an appropriate education.

The Mathias Amendment was also introduced in 1974 as an

interim measure to aid the states in providing equal educational opportunity of the handicapped. In order to receive federal funds, each state had to adopt:

"procedures to insure that to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities are educated with children who are not handicapped, and that special classes, separate schooling or other removal of handicapped children from the regular education environment occurs only when . . . education . . . cannot (otherwise) be achieved satisfactorily" (cited in Gilhool, 1976, p. 186).

It is evident that the intent of Congress was to integrate the handicapped into "mainstream" society. This intent was reiterated in the Stafford Amendment. Specifically, the states were required to adopt a free public education goal and to adopt procedural safeguards complying with due process relating to the identification, placement, and evaluation of the handicapped. Congress clearly perceived a substantive right of the handicapped to be educated in the least restrictive environment and the states were required to establish the procedural safeguards to guarantee this right (Roach, 1978).

On November 29, 1975, the Education For All Handicapped Children Act (PL 94-142) was signed into law. The law superceded PL 93-380 and committed the federal government to the most substantial financial contribution toward the education of handicapped children in American history. Furthermore, it refined and strengthened the rights and guarantees elucidated in PL 93-380. The goal of PL 94-142 is to guarantee equal educational

opportunity to all handicapped children. The states are required to provide a free appropriate public education in the least restrictive environment for all handicapped children. In adopting the wording of the Mathias Amendment, PL 94-142 reassured the rights of the handicapped to education in the LRE mandating:

" . . . procedures to assure that, to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily" (P.L. 94-142, Section 612).

What the Congress accomplished with PL 94-142 was permanent legislation guaranteeing that handicapped children would be afforded equal educational opportunities regardless of the severity of the handicap. Congress accepted the notion that social integration is a vital component of equal educational opportunity (LRE, 1979).

The regulations of PL 94-142 place strict prohibitions on placing the handicapped child outside the regular class. Only two conditions were given for such placement outside of the mainstream. One is the emphasis placed on the need for an appropriate education for the handicapped child. The determination is based on the child's needs and not on the ability or inability of the school system to easily absorb the

student into the regular school program. Secondly, and related to the first, exclusion is permissible only when "the severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily." Thus, the Individual Education Plan (IEP) becomes an essential component for the successful implementation of the LRE requirement in the education of handicapped children. As a result, Congress apparently has decided that whatever is appropriate to fulfill the guarantee of equal education in the least restrictive environment, must be made available.

Senator Harrison Williams summed up this belief in educational equality:

"The Constitution provides that all people shall be treated equally, but we know that, while all youngsters have an equal right to education, those who live with handicaps have not been accorded this right. This measure fulfills the promise of the Constitution that there shall be equality of education for all people, and that handicapped children no longer will be left out" (cited in Gilhool & Stutman, 1979, pp. 210-211).

The concept of the LRE, as well as the other provisions of PL 94-142, implies acceptance of certain perceptions about the meaning of education in a society and most specifically, the advantages of integration. Congress has acknowledged the rights of the handicapped and in turn, has accepted the notion that the integration of children (regardless of handicap) enhances the long term benefits of all school children.

The LRE, having become a part of statutory law through the enactment of Section 504 of the Rehabilitation Act and PL 94-142,

should be construed as nothing less than a Congressional mandate. However, the LRE mandate must not be interpreted as merely mass mainstreaming and a call for the "dumping" of handicapped children into the regular classroom. The Congress and the courts have called for an "appropriate" education for the handicapped and, therefore, the mandate for education in the LRE must be considered in this light.

There are many potential problems that threaten the successful implementation of the LRE mandate.

1. In both Fialkowski v. Shapp and Frederick I. v. Thomas 408 F. Supp. 832 (denial of motion to dismiss; 419 F. Supp. 960 (1976) aff'd 557 F. 2d 373 (3d Cir. 1977) the courts touched upon a potential conflict inherent in the LRE concept: the conflict between the delivery of an appropriate education and the desire to achieve social integration. If an education is to be meaningful and appropriate to the needs of the handicapped child there will arise those instances where placement cannot be in the regular classroom. Although such placements are a part of the LRE concept, they run counter to the goals of integration. It must be remembered that it was made clear in Hairston v. Drosick that the interaction of handicapped and nonhandicapped children is essential in order to obtain maximum educational opportunity. Resolution of this conflict will not be easy, but the determining factor rests with what definition is accepted for the delivery of an "adequate education."

Regular classroom placement may not become unsatisfactory



simply because it is not, from a strictly academic standpoint, "the best placement possible." How are we to weigh the social/psychological cost to a child that may result from the separation of the handicapped from his/her nonhandicapped peers?

2. The LRE doctrine requires that there exist a continuum of placement alternatives to adequately treat/educate the handicapped. However, some have interpreted LRE to mean that only the most restrictive placement must be discarded and have shown little inclination to create additional alternatives instead. This interpretation of LRE may be a severe stumbling block to the successful implementation of the LRE as envisioned by the courts and Congress. The existence of a flexible and complete comprehensive array of services is necessary if all students are to be guaranteed an "appropriate" education in the LRE.

3. The principle of the LRE requires evaluation of each child's individual needs. Ultimately this implies a change in the focus of education in America toward emphasis on the individual child and not just the "group." Such a change apparently would require the massive expansion of funding for both special and regular education. Whether such a change will occur given present economic conditions and political priorities is highly questionable.

4. Related to the comment above, proper implementation of the LRE doctrine will require the re-training of a large percentage of the regular teaching staff. This is essential if

teachers are to be sensitive to the "unique" needs of handicapped children and competent enough to offer them an adequate education. Again, the issue may be one of adequate funds.

5. Finally, an important question will arise as to what is meant by an "appropriate" education. How far must a school district go to meet the "needs" of the handicapped child? To what extent is the school district responsible for the child to realize his/her "full potential"? This question of "appropriateness" is crucial to the implementation of the LRE in the education of the handicapped. The courts are beginning to address this question. In Board of Education, et al. v. Rowley (U.S. No. 80-1002), the U.S. Supreme Court was asked to address the question of appropriateness. Amy Rowley (a child with minimal residual hearing) had been furnished by school authorities with a special hearing aid for use in the classroom and was to receive additional instruction from tutors. Her parents filed suit asking the school district to also provide a qualified sign language interpreter in all of her academic classes. The federal district court ruled in Amy's favor, and addressed the issue of appropriateness in the following manner:

"... although the child performed better than the average child in her class and was advancing easily from grade to grade, she was not performing as well academically as she would without her handicap. Because of this disparity between the child's achievement and her potential, the court held that she was not receiving a 'free appropriate public education,' which was defined as 'an opportunity to achieve her full potential commensurate with the opportunity provided to other children'."

The Supreme Court, however, after agreeing to hear an appeal, held that a sign language interpreter was not required:

"The Act's (PL 94-142) requirement of a "free appropriate public education" is satisfied when the State provides personalized instruction with sufficient support services to permit the handicapped child to benefit educationally from the instruction . . . The Act's language contains no express substantive standard prescribing the level of education to be accorded handicapped children. . . The Act does not require a State to maximize the potential of each handicapped child commensurate with the opportunity provided non-handicapped children."

Clearly, the Supreme Court in reversing the decision of the district court has helped to further the judicial interpretation of what Congress intended as a "free appropriate education." But by no means has this decision been decisive in establishing a framework for implementation.

The appropriateness of an educational environment is difficult to determine. Academically, the provision of needed services, the availability of qualified instructors, and the presentation of valuable curriculum may help in the determination. However, the socialization function of education must not be disregarded. The importance of determining what environment or educational arrangement is the most "appropriate" can be seen in its centrality in resolving difficulties regarding definition of LRE. In fact, a very great portion of empirical research in special education has been devoted to the problem of identifying which educational environments are most appropriate for children with handicaps. This issue has typically been

phrased in terms of comparisons of regular class and self-contained special class placements for handicapped children.

## REVIEW OF REVIEWS

Since the advent of special classes for handicapped children researchers have attempted to identify the settings in which the most positive educational outcomes could be achieved. Thus, in the early part of the century special classes were established in the belief that mentally retarded children could not be educated productively within regular class environments. The purpose of the special class was to provide exceptional children a) specially trained teachers, b) a well-designed curriculum, and c) a haven from the social isolation and rejection of the regular grades (Meyers, MacMillan & Yoshida, 1980).

The effectiveness of special class placement in accomplishing these goals for the mentally retarded has been examined in a long series of efficacy studies beginning in 1932 (Bennett, 1932). These studies compared educational outcomes for children served in regular or special classes. Similar studies have continued in the context of changes in the political and philosophical climate in the 1970s which altered the thrust from encouraging placement within a segregated setting to integrating handicapped children into the regular class to the maximum extent possible. During this period the resource room (part-time special education) was created as an intermediate step between segregation and complete integration, and studies in the 1970s which used setting as the independent variable have often included the resource room as one alternative.

The field of special education is replete with attempts to meaningfully review and integrate this research (see Semmel, Gottlieb, & Robinson, 1979, for a recent and comprehensive review by the first author). The present authors, rather than generating yet another exhaustive report on existing empirical studies of special education settings, have attempted to go beyond this process. We have conducted a review of seven major research integration papers (Carlberg & Kavale, 1980; Guskin & Spicker, 1968; Kirk, 1964; Leinhardt & Pally, 1982; Meyers, MacMillan & Yoshida, 1980; Semmel, et al., 1979; Strain & Kerr, 1981) with the goal of clarifying the contribution of these efforts toward attaining a reliable knowledge-base. Such an approach, we argue, may provide a particularly useful perspective from which productive shifts in the conceptual and empirical focus of special education research may be derived.

#### Major Reviews of Efficacy Research in Special Education

The authors of a number of major review papers have summarized and critiqued studies comparing the efficacy of different types of special education environments (Carlberg & Kavale, 1980; Guskin & Spicker, 1968; Kirk, 1964; Leinhardt & Pally, 1982; Meyers et al., 1980; Semmel et al., 1979; and Strain & Kerr, 1981). Each of these reviews is considered below, followed by a general discussion of the findings and persistent problems in efficacy research.

The Kirk Review. Kirk (1964) argued in his review that the

increase in special class placement from 1922 to 1958 should be accompanied by empirical evidence supporting special class superiority. He concluded, however, that the available evidence was equivocal. In the area of academic achievement he noted that some researchers found results indicating the superiority of regular class placement (Bennett, 1932; Cassidy & Stanton, 1959; Elenbogen, 1957; Pertsch, 1936) while others found no difference based on setting (Ainsworth, 1959; Blatt, 1958; Mullen & Itkin, 1961). The limited evidence for the superiority of special class placement came from a reanalysis of Pertsch's data (Cowen, 1938) and for learners in the low IQ range (Thurstone, 1959).

In the area of social adjustment, Kirk found consist results favoring special class placement. Johnson (1950) and Johnson and Kirk (1950) found that mentally retarded children were rejected in the regular class. Baldwin (1958) and Thurstone (1959) found that there was greater social acceptance of mentally retarded children in special classes than in regular classes. Jordan and deCharms (1969) found special class children to have less fear of failure than mentally retarded children placed in regular classes.

Kirk concluded that methodological inadequacies in the research (specifically, the use of intact groups and matching procedures to provide equivalence between groups) prevented clear conclusions for any setting's superiority. He suggested that random assignment of children to setting would eliminate the problems of internal validity that were evident in the studies



reviewed. Based on available evidence, however, Kirk judged that the regular class contributed to academic achievement, and the special class contributed to the social adjustment of mentally retarded children.

The Guskin and Spicker Review. Guskin and Spicker (1968) reviewed educational research in mental retardation and included the topic of the efficacy of regular class versus special class placement. They examined a smaller number of studies than Kirk, and dealt in greater detail with methodological flaws in the studies. Kirk had conjectured that because a study by Goldstein, Moss and Jordan (1965) employed improved methodology, it might provide more conclusive evidence indicating which setting would be most effective for handicapped children. Guskin and Spicker, however, noted persisting design limitations related primarily to the external validity of the Goldstein et al. study. In addition, they questioned the conclusion that special class placement resulted in improved social adjustment for mentally retarded children, arguing that studies which contributed to that conclusion were based on teacher ratings and sociometric measures from peers. These measures reflected different frames of reference for the raters in special and regular classes and were, therefore, not directly comparable. Studies which addressed the issue of comparable reference groups obtained less consistent results indicating that mentally retarded children in the regular class either exhibited less self-derogation (Meyerowitz, 1962) or showed no consistent differences in social adjustment outcomes

(Mayer, 1966; Milazzo, 1963; Towne, Joiner & Schurr, 1967).

During the 1960s the number of children served in segregated settings was particularly high due to increases in federal funding and the prevailing zeitgeist which was that all children needing special help should receive it. However, a series of profound policy changes which took place during the 1970s, culminating in the passage of PL 94-142, changed the predominant placement policy from one which favored special classes to one which emphasized regular class "mainstreaming". Later review papers reflect this shift in policy since empirical research began to focus on the evaluation of mainstreaming (MacMillan & Semmel, 1977). A number of influential research review efforts have attempted to integrate this data.

Semmel, Gottlieb, and Robinson (1979) Review. The most comprehensive review paper to be completed during the mainstreaming era was that by Semmel et al. (1979). Because of the unusual breadth of this paper, its findings are presented in some detail.

This review differs from those of Kirk (1964) and Guskin and Spicker (1968) in that it included studies of the resource room option, as well as studies done with children with handicaps other than mental retardation. Semmel et al., in their review of the early efficacy studies, concluded that there were no consistent indications of superiority for either regular or special class placement for EMR children. In particular, it appeared that the study with the least flawed methodology

(Goldstein et al., 1965) had revealed no lasting differences between groups. In later studies which included the resource room option (Rodee, 1971; Walker, 1974), most suffered serious flaws due to sample selection bias. The most widely cited investigation that included random assignment to groups (Budoff & Gottlieb, 1976) found no significant difference between groups in reading or arithmetic achievement.

The studies reviewed by Semmel et al. for emotionally disturbed and learning disabled children had ambiguous findings. Some studies showed superior academic achievement in special classes (Cruickshank, Bentzen, Ratzenburg & Tannhauser, 1961; Haring & Phillips, 1962), while others found no difference between special and regular class placement (Bersoff, Kabler, Ficus, & Ankney, 1972; Rubin, Simson & Betwee, 1966; Vacc, 1972). There was some indication that resource room placement improved academic performance (Glavin, Quay, Annesley & Merry, 1971; Sabatino, 1971), however, Glavin (1974) found that these gains were not maintained. In addition to the problem of using intact groups, these studies suffered from definitional problems related to identifying children as learning disabled or emotionally disturbed.

The studies that had evaluated programs for hearing impaired and visually impaired children did not permit comparison of alternative placements for children with these handicaps. Semmel et al. did conclude that visually impaired and hearing impaired children required support services to succeed within the regular

class environment.

Semmel et al. also reviewed social outcomes for handicapped children from studies that examined self-reports, sociometric measures, and direct observation. There was no conclusive evidence favoring one placement option over another on the development of positive self-concept for children with mental retardation. More specifically, conflicting results indicated that self-concept was: a) superior for children placed in special classes (Cassidy & Stanton, 1959; Goldstein et al., 1965; Hoeltke, 1967; Kern & Pfaeffle, 1963; Schurr & Brookover, 1967), b) superior for children in regular classes (Carroll, 1967; Pertsch, 1936), or c) that placement made no difference (Bacher, 1965; Blatt, 1958; Budoff & Gottlieb, 1976; Flynn & Flynn, 1970; Knight, 1967; Mayer, 1966; Walker, 1974; ).

Consistent with the Kirk (1964) review Semmel et al., found evidence from sociometric measures that EMR children were not well-accepted in the regular classroom (Goodman, Gottlieb & Harrison, 1975; Gottlieb & Budoff, 1973; Iano, Ayers, Heller, McGettigan & Walker, 1974; Johnson, 1950; Lapp, 1957; Rucker, 1967). Noting that while sociometric measures tap acceptance towards specific mentally retarded children, attitude measures tap acceptance toward hypothetical children (Semmel et al., 1979), Semmel et al. reviewed several studies that indicated that contact improved attitudes toward the retarded (Jaffe 1966; Sheare, 1974). However, others indicated no difference in attitude as a result of contact (Peterson, 1974; Strauch, 1970).

Observational studies of the behavior of children with mental retardation in the regular class environment showed that they behave similarly to nonhandicapped children (Gampel, Gottlieb & Harrison, 1974; Grosenick, 1970; Guerin & Szatlocky, 1974). However, one study found that when EMR children were randomly assigned to mainstream or special class placement there were increases in misbehavior for special class children. Special class EMR children were more restless, and they gave and received more negative verbal responses than integrated EMR children (Gampel et al., 1974).

Empirical findings on the social adjustment of children with handicaps other than mental retardation were limited. The studies cited by Semmel et al. dealing with the direct observation of behavior of emotionally disturbed/learning disabled children did not include comparisons of behavior across settings (Barr & McDowell, 1972; Forness & Esveltdt, 1975; Kounin, Friesen & Norton, 1966). However, studies which evaluated the sociometric status of learning disabled/emotionally disturbed children relative to that of their nonhandicapped peers indicated that the handicapped children had lower status (Bryan, 1974; Siperstein, Bopp & Bak, 1978; Vacc, 1972). The sociometric findings on hearing impaired and visually impaired children indicated greater acceptance and more positive attitudes with increases regular class contact (Bateman, 1962; Kennedy & Bruininks, 1974; Marsh & Friedman, 1972). The sociometric evidence on physically handicapped children showed social

rejection (Billings, 1963; Siperstein & Gottlieb, 1977), however, additional evidence indicated that increased contact contributed to more positive perceptions of physically impaired children (Rapier, Adelson, Carey & Croke, 1972).

#### Other Recent Reviews

A number of other researchers have attempted to integrate and interpret empirical findings on the relationships between special education outcomes and specific classroom settings.

Carlberg and Kavale (1980). These authors included 50 studies in a meta-analysis. Studies were included which met the following criteria:

1. The study had to investigate educational placement for an identifiable category of exceptionality.
2. The study had to examine special class placement.
3. The study had to include a comparison group (e.g., regular class) even if the comparison group was the same as the special class group (as in a correlated group pretest-posttest design).
4. The study has to report results in a fashion that could be translated into a form appropriate for meta-analysis (p. 198).

Based on their meta-analysis, Carlberg and Kavale concluded that special class placement was inferior to regular class placement in the areas of achievement and social adjustment. They additionally found that special class placement was more effective for learning disabled/emotionally disturbed children

than it was for either slow learners or EMR children. However, the authors did not separate the effects of resource room placement from placement in a segregated special class.

Strain and Kerr (1981). In a recent review, Strain and Kerr (1981) critically evaluated the efficacy studies in terms of methodological issues raised. They divided their review into the academic and social consequences of educational placement for mentally retarded children. They found studies reviewed in the area of academic achievement ambiguous in their implications. For example, Strain and Kerr indicated that while some studies found that regular class placement resulted in superior academic achievement for EMR children (Bennett, 1932; Cassidy & Stanton, 1959; Elenbogen, 1957; Hoeltke, 1966; Pertsch, 1936), most showed no difference due to placement (Ainsworth, 1959; Bacher, 1964; Blatt, 1958; Bradfield, Brown, Kaplan, Rickert, & Stannard, 1973; Goldstein et al., 1965; Jordan, 1965; Lewis, 1973; Mullen & Itkin, 1961; Smith & Kennedy, 1967; Thurstone, 1959; Walker, 1974; Warren, 1962). Strain and Kerr concluded that the "trend" in academic achievement results favored placement in a regular class rather than in a special class. They suggested that this trend may be the result of: (a) the emphasis on competition within the regular class, (b) differences in curriculum content, with the special class curriculum placing greater emphasis on personal and social development, and (c) subject selection biases favoring special education students placed in regular classes.

Strain and Kerr distinguished the results of social outcomes



based on the time periods in which the studies were done. Results prior to 1970 favored special class placement regarding positive teacher and peer ratings (Bennett, 1932; Cassidy & Stanton, 1959; Elenbogen, 1957; Johnson, 1950; Johnson, 1961; Kern & Pfaeffle, 1963; Thurstone, 1959). After 1970 the results favored placement in regular class settings (e.g., Sheare, 1974). The authors suggested that prior to 1970 the political climate led to special class placement and those school systems that had special classes were "better funded, better equipped, and better staffed" (p. 23) than those school systems that did not. After 1970, however, the segregation of handicapped children was questioned and emphasis and funding were shifted to placement in the "mainstream."

Strain and Kerr additionally examined the effects of special class placement on the self-concept of mentally retarded children. They concluded that the results suggested superior self-concept development for integrated EMR children (Budoff & Gottlieb, 1976; Carroll, 1967; Fine & Caldwell, 1967; Goldstein et al., 1965; Meyerowitz, 1962; Welch, 1966). However, they also reported conflicting evidence which favored special class placement (Hoeltke, 1966; Mayer, 1966; Warner, Thrapp, & Walsh, 1973) and evidence which showed no difference (Bacher, 1964; Bradfield et al., 1973; Lewis, 1973; Walker, 1974).

Leinhardt and Pally (1982). In their review, Leinhardt and Pally (1982) argued that setting itself was not primarily responsible for academic and social outcomes, rather the

processes which exist at variable strengths within particular settings are responsible for change. Their review indicated, however, that some programs which result in positive outcomes may be more readily implementable in some types of settings than in others.

The Leinhardt and Pally review also separated the early efficacy studies from those that were done after 1970. They compared outcomes for self-contained and regular class settings, finding that academic outcomes for self-contained students were superior (Haring & Krug, 1975; Myers - low IQ, 1976; Sabatino, 1971; Vacc, 1968). They also reported studies in which results were contradictory (Bersoff et al., 1972; Myers - High IQ, 1976; O'Leary & Schneider, 1977), noting however, that these investigations either used matched groups, rather than random assignment, or focused on EMR children who were at the upper end of the EMR classification.

Leinhardt and Pally additionally contrasted outcomes for resource room placement with special class placement, concluding that results tended to favor resource room placement. However, they also described contradictory findings favoring self-contained placement (Sabatino, 1971), no difference (Budoff & Gottlieb, 1976; Walker, 1974), and favoring resource room placement (Carroll, 1967; Edgerton & Edgerton, 1973). They found the evidence comparing regular class placement and resource room placement clearly favored the latter (Glavin et al., 1971; Jenkins & Mayhall, 1976; Sabatino, 1971).

In the area of social outcomes the authors confined their review to studies dealing with self-concept and social acceptance. They combined studies from the 1960s and 1970s and concluded that the self-concept of EMR children was superior in self-contained classrooms (Kern & Pfaeffle, 1963; Knight, 1967; Schurr et al., 1972; Warner et al., 1973). They reported the evidence relating to social acceptance by nonhandicapped peers as unequivocal, however, indicating that EMR children were not well-accepted in regular class settings.

The conclusions of Leinhardt and Pally supported their original thesis: setting as a variable is less important than the program practices that occur within the setting. They suggested that, although effective behavioral strategies may be implemented most easily within a self-contained setting, there are other attributes of these settings including reduced cognitive demands, less rapid pacing and lowered teacher expectations which operate to restrict child outcomes. They concluded that because moral and social considerations encourage a reduction of restrictiveness, the task of education is to find ways of successfully implementing effective intervention practices within the regular class or resource room settings.

Meyers, MacMillan and Yoshida (1980). These authors have also recently completed a review of research on the effects of classroom settings. Their review of current mainstreaming studies included an evaluation of academic and social outcomes. They reported results that showed no difference based on

placement (Budoff & Gottlieb, 1976) as well as studies which showed gains for reading for mainstreamed children but not for math (Walker, 1974; Carroll, 1967). Social outcomes indicated that mainstreamed EMR students were not well-accepted (Goodman, Gottlieb & Harrison, 1972). However, they also noted that the study by Sheare (1974) indicated that increased contact with EMR students resulted in more favorable attitudes. Results related to the self-concept of EMR children were judged as equivocal, indicating either no differences based on setting (Walker, 1974) or improved self-concepts for mainstreamed children (Carroll, 1967; Budoff & Gottlieb, 1976).

Meyers et al. also described the California decertification studies (Meyers, MacMillan, & Yoshida, 1975; Keogh, Levitt, Robson, & Chan, 1974) that were done to examine the success of the transition of learners from special classes to regular class environments. Both of these studies indicated that decertified students had higher test scores than the EMR comparison group, but that both groups had lower scores than the nonhandicapped comparison students. Meyers et al. concluded that there was still no clear empirical evidence favoring placement in regular class or special class settings. They argued that it is only because the social and political climate favors mainstreaming that children are retained within the regular class rather than segregated. They concluded further that because setting is a complicated variable that encompasses many dimensions it is unlikely that there will be empirical evidence that clearly

indicates one type of setting is preferable.

### Summary

The seven review articles summarized above represent the best existing attempts to integrate and interpret research done in the field of special education during the past 50 years. For a number of reasons, which are discussed, it appears that we have accumulated little firm empirically-based knowledge from these efforts. Nevertheless some tentative areas of agreement may be identified.

There was general agreement among the reviewers that the early efficacy studies provided evidence that academic outcomes were superior in regular class settings. However, some argument with this general opinion was offered by Semmel et al. (1979). These authors concluded that there was no particular administrative arrangement that contributed to the academic achievement of handicapped children. They did indicate, however, that academic behavior (which they differentiated from achievement) was facilitated in the resource room for EMR, learning disabled and emotionally disturbed students. Their conclusions may have differed from those of other reviewers because: (1) they did not analyze the studies relative to the years in which they were done, and (2) they considered handicaps other than EMR. Carlberg and Kavale (1980), who also examined results for other handicapping conditions, concurred with the general opinion that regular class placement contributed to

superior academic achievement for EMR children. Additionally, they found that special class placement was more effective for learning disabled/emotionally disturbed learners.

Kirk (1964) summarized results differently for children at the lower end of the EMR range. He indicated that these children had superior academic achievement in special class settings. A similar distinction was made by Leinhardt and Pally (1982) who described the Goldstein et al. (1965) study in terms of differential results for high IQ and low IQ students. A caveat mentioned by all reviewers of the early efficacy studies concerned the methodological weaknesses inherent in the studies which limited conclusions.

Conclusions drawn by reviewers regarding social outcomes were only slightly more consistent. The most consistent finding was that EMR children were not well-accepted by their nonhandicapped classmates (Kirk, 1964; Leinhardt & Pally, 1982; Meyers et al., Strain & Kerr, 1981; Semmel et al. 1979). However, Semmel et al. concluded that there was contradictory evidence relative to overall social outcome measures. While they agreed that there was consistent evidence that the social acceptance of EMR children was not facilitated by mainstreaming, they concurred with Guskin and Spicker that evidence from self-concept measures was inconclusive. Additionally, Semmel et al. noted data which indicated that the behavior of EMR children in regular class settings was indistinguishable from that of their nonhandicapped peers.

The conclusions of Carlberg and Kavale (1980), however were significantly divergent from general opinion regarding social outcomes. They stated that social outcomes for EMR learners were facilitated in regular class settings. This finding may be partially explained by the specific studies they reviewed. They examined several studies related to social adjustment which were not analyzed by any other reviewers (Budoff & Gottlieb, 1974; Gottlieb & Budoff, 1972; Holland, 1971; Schell, 1959; Tilley, 1971). Additionally, the Carlberg and Kavale conclusions may have differed because they did not divide their studies based on the years in which they were done. More than half of the studies which showed superior social outcomes in regular class settings were post-1970 studies.

Of the three review articles that considered the post-1970 efficacy studies separately (Leinhardt & Palley, 1982; Meyers et al., 1980; Strain & Kerr, 1981), Meyers et al. (1980) drew conclusions similar to those drawn in the early efficacy studies. However, Strain and Kerr (1981) concluded that EMR children progressed at least as well within the regular class setting as they did when segregated into a special class.

Leinhardt and Pally (1982) concurred with this finding for high IQ EMR children and for matched populations of EMR students in regular and special classes. In contrast, they concluded that for low IQ students and for studies that used random assignment, academic achievement was facilitated in a special class setting. Differences in conclusions may once again occur because the



reviewers analyzed different studies. The evidence presented by Leinhardt and Pally for the superiority of academic achievement in special classes was provided by the studies of Sabatino (1971), Myers (1976) and Vacc (1968). These studies were not reviewed by Meyers et al. or Strain and Kerr. The population sampled in these studies, however, included learning disabled, EMR and emotionally disturbed students rather than simply EMR students. These studies were reviewed by Semmel et al. as well as Carlberg and Kavale, but were considered separately from studies related to EMR students.

In the area of social outcomes for post-1970 studies the three reviews also arrived at conflicting conclusions. Meyers et al. limited their conclusions because of the evident contradictions in the literature. Strain and Kerr reported the contradictions but concluded there was an "apparent superiority in self-concept of integrated EMR children" (p. 23). Leinhardt and Pally also reviewed conflicting results but stated "the consistent finding seems to be that EMR students have better attitudes toward themselves in more isolated settings" (p. 26). With the exception of Strain and Kerr there was agreement that handicapped children were not well-accepted within the mainstream. Strain and Kerr state, "All studies reported from the 1970s found that integrated EMR children were viewed more favorably than their special class counterparts" (p. 22). The literature reviewed by Strain and Kerr was limited to teacher reports and measures of peer attitudes while studies reviewed by

Meyers et al. and Leinhardt and Pally included sociometric measures as well.

It seems clear that there is less than perfect agreement among the reviewers relative to the influence of class settings on academic and social outcomes in special education. There is agreement, however, on two issues: (a) there are serious methodological limitations in the studies reviewed and (b) there is within-setting variation that influences outcomes in ways that have not been sufficiently explored. These issues are the focus of the following discussion.

### Methodological and Conceptual Problems in Special Education Research

#### Nonequivalence of Groups

Researchers who have examined the effect of special class versus regular class setting have typically used intact group comparisons. Kirk (1964) observed, however, that children referred and selected for special class placement are different from those that remain in regular classes. The children referred for special class placement typically have behavior problems in addition to exhibiting a pattern of academic failure (MacMillan, Meyers & Morrison, 1980). Because the groups are not comparable at the outset, it is difficult to conclude that it is a particular setting which has affected the outcomes rather than the initial difference in the groups themselves.

Matching has been used as a substitute for randomization in some studies (Bennett, 1932; Blatt, 1958; Pertsch, 1936; ). However, Campbell and Stanley (1963) suggest that "matching" on background characteristics...is usually ineffective and misleading" (p. 12). Guskin and Spicker (1968) used the study of Mullen and Itkin (1961) to illustrate the difficulties inherent in the use of matching procedures to equate subjects in special and regular classes. The special class students were matched with a group of students on the waiting list for special class placement. Guskin and Spicker (1968) noted that the authors themselves characterized the waiting list children as brighter than the special class children. Matching problems mentioned include: first, matching was based on scores taken at the beginning of the study rather than at the beginning of special class placement. The scores, therefore, may have reflected changes that had already taken place due to special class placement. Secondly, because there is error present in each individual's score and because the group mean of the special class retarded children is lower than the group mean of the regular class EMR children on retesting, individuals from both classes would tend to regress toward the mean of the group from which they were drawn. On retesting regression would favor the regular class students. Lastly, Guskin and Spicker indicated that in order to match subjects from special classes and regular classes it was necessary to select subjects that may not be representative of the populations from which they were drawn.

This procedure limited generalizability.

Strain and Kerr further question the subject selection procedures used in the efficacy studies. They describe several problematic approaches. First, some comparisons have involved segregated EMR children from school systems that serve all EMR children in special classes, and integrated EMR children from school systems that have no special classes. Second, numerous investigations have both segregated and integrated EMR children in the same school system. Finally, a few studies have compared EMR children who have been randomly placed into integrated or segregated classes. In the first approach, Strain and Kerr question the assumption that school systems that do not provide special classes are similar to those that do. They suggest that, particularly prior to the trend toward mainstreaming, schools that did not have special programs were "smaller, poorer, and generally more limited in the range of services provided to any subpopulation of children" (p. 28). The issues raised in matching students are also present in the second approach. Following Kirk (1964), Strain and Kerr argue that it is difficult to match on all the potentially relevant variables. However, as matching is carried out on increasing numbers of variables, generalizability to unmatched populations becomes limited.

Kirk (1964) suggested that methodological difficulties could be eliminated through random assignment of subjects to treatment groups. Guskin and Spicker (1968) contributed a lengthy analysis of the study by Goldstein et al. (1965), which featured random

assignment, controls for program and curriculum variables, and included instruments to evaluate outcomes that were specific to special class placement such as social and occupational skills. As illustrated by Guskin and Spicker, even this carefully designed study was inconclusive.

Guskin and Spicker reported that Goldstein et al. found: (a) while both groups gained in IQ over the four year period of the study, there was no significant difference in amount of gain between the two groups, (b) there was no difference between groups in reading skills with the exception of the word discrimination ability of the regular class groups, (c) on the test developed to tap social knowledge there were no placement differences, (d) there were social measurement differences favoring the special class children, and (e) special class children from one county scored significantly higher than comparison children in verbal measures of originality, fluency, and flexibility of thought.

Goldstein (1967) drew different conclusions. He indicated that while there were no significant differences between groups for high IQ children (those with IQs above 80), the low IQ children (those in special classes) exceeded controls in language achievement, spelling, oral reading, word recognition, tachistoscopic word recognition, and sound blending. He reported that low IQ experimental children scored lower than the control children in word discrimination and reading comprehension. Goldstein additionally found that low IQ children scored

significantly higher on the Test of Basic Social Information.

Guskin and Spicker took issue with Goldstein's conclusions that were based on secondary analysis of low and high IQ groups. Their objections included: (a) children were separated into low and high IQ groups based on terminal rather than initial scores, (b) initial random assignment was not made within IQ levels, and (c) generalizability is limited due to the small sample size ( $N = 25$ ) of children with an IQ of below 75.

Other threats to external validity for the efficacy studies concerned the control of contextual variables. Researchers who initially sought to determine the effects of setting on learner outcomes ignored the effect of contextual variables, assuming them to be equivalent across settings. Questions arose, however, as to the likelihood of that equivalence (Kirk, 1964; Semmel et al., 1979; Strain & Kerr, 1981). Unfortunately, attempts to control for each contextual variable in order to test for main effects due to setting result in limiting the generalizability of results to specific cases in which contextual variables differ. Alternatively, the more typical procedure of assigning contextual variability to the error term results in such high within-group variance as to preclude clear identification of main effects.

#### Problems with Dependent Measures

A second methodological problem suggested in several reviews concerns the problems associated with the outcomes measures used to tap academic and social growth (Leinhardt & Pally, 1982; Semmel et al., 1979; Strain & Kerr, 1981). Academic progress is

typically measured through the use of achievement tests. Advantages to these measures include: large standardization populations, empirically established reliability for use with groups, and measurement of some objectives of curriculum common to many schools (Jones, Gottlieb, Guskin & Yoshida, 1978). Strain and Kerr (1981) contend, however, that achievement tests do not measure the important vocational and self-help goals of special classes. Additionally, Jones et al. (1978) suggest that since the tests were not normed on handicapped children, their format and use of language may not be appropriate for these children.

Measures of social outcomes, typically grouped under the construct of "social adjustment" (e.g., Semmel et al., 1979), have included sociometric ratings, personality inventories, teacher ratings and self-concept measures, as well as direct observation of behavior (Guskin & Spicker, 1968; Semmel et al., 1979). Several researchers (e.g., Greenwood, Walker, & Hops, 1977; Strain & Kerr, 1981) have questioned the stability of many of these measures over time. For example, measures used for teacher ratings have not typically reported test-retest comparisons and "sociometrics have traditionally yielded reliability measures less than adequate to be useful in selection/identification procedures" (Greenwood et al., 1977, p. 492).

It is difficult to compare social outcomes from various studies because the measures used index different dimensions of



social behavior (Greenwood et al., 1977). Sociometric scales measure popularity if nomination methods are used, whereas rating-scales give a general index of likability or acceptability (Asher & Hymel, 1981; Greenwood et al., 1977). In contrast, observational measures provide information on the frequency and topography of specific social behavior. Additionally, studies which have attempted to identify aspects of behavior which correlate with social status have been relatively unproductive (Deno, Mirkin, Robinson & Evans, 1980). Deno et al. (1980) attribute this failure to the complexities of peer interaction as well as to the large number of variables related to social status. They also indicate that the nature of the observational procedure itself may limit the relationships defined. Possible problems include: (a) low incidence negative behavior may have a particularly negative impact on acceptability yet may not be evident in a random sample of behavior, and (b) because the observer does not have an historical perspective, interaction which may appear positive or neutral may be viewed differently by peers (Deno et al., 1980). When relationships have been found between sociometric measures and observed behavior it has been with young children. Asher and Hymel (1981) suggest that the relationship for older students is not as evident because correlates of social status in older children may not be primarily behavioral. Rather, important factors may be related to race, gender, and physical appearance.

Teacher ratings, estimate a different aspect of social

adjustment: the level of a child's adjustment relative to others within the environment. Because the special class and regular class teacher use different frames of reference for evaluation, the evaluation may not be directly comparable (Guskin & Spicker, 1968). Deno et al. (1980) argue further that ratings may be affected by teacher's expectations for improvement (Beez, 1968; Rosenthal & Jacobson, 1968).

Self-concept is the final dimension typically assessed as an index of social adjustment. These ratings purport to measure how a child perceives himself/herself. However, they include highly diverse measures such as self-derogation (Meyerowitz, 1962), evaluations of school performance (Towne, Joiner, & Schurr, 1967), and measure of attitudes toward school (Lewis, 1973). Strain and Kerr (1981) contend that measures of self-concept are not necessarily measures of reality but rather demonstrate how children perceive reality. They state that "children may claim many friendships, state that they are competent learners, and see themselves as having control over their environment, none of which may represent the current reality" (p. 30). Morrison (1981) has recently reported empirical evidence that EMR children have difficulty in correctly assessing their own social status.

#### Inadequate subject descriptions

Another persistent methodological problem contributing to inconsistent results obtained in the efficacy and mainstreaming studies has been the changing nature of the children assigned to special education placement. MacMillan, Meyers and Morrison

(1980) outlined the history of variations in the characteristics of EMR children enrolled in special education programs. They suggest that prior to World War II there were special training classes for slow learners with IQs into the 80s. During the Kennedy administration, however, the accepted definition of mental retardation changed to include children who scored one standard deviation below the mean (i.e., IQs 85) on an IQ test rather than two standard deviations. The feeling during those years was that services should be provided for all that needed them. Moreover, there was an increase in funding, which encouraged educators to fill special classes. However, during the years 1969-1973 several court cases were brought (see Legal and Historical Overview) which challenged the disproportionate number of minority students assigned to special education classes. The AAMD definition of mental retardation was changed again to include only children with IQs of 70 and below and additionally to stipulate the demonstration of deficiencies in adaptive behavior.

MacMillan et al. (1980) contended that initial referral for special education occurs not because children have academic difficulties, but because they have "exhibited disturbed behavior or otherwise manifested problems more difficult to help in the regular program" (p. 109). In fact, these authors suggested that the process of labeling a child is a highly subjective one. Algozzine (1977) has also described problem behavior from an ecological perspective that views a disturbance as an interaction

between the behavior exhibited by the child and "the response that the behavior provokes from others in the environment" (p. 206). While a child must exhibit disturbing behavior in order to be considered a problem, identical behaviors are interpreted differently by teachers with different levels of tolerance (Algozzine, 1977). Thus, varying perceptions will result in differential rates of referral. Outcomes of referral may vary depending on "district policy, characteristics of the screener, qualities of the neighborhood, and even size of the school" (MacMillan et al., 1980). It is clear, therefore, that while research is often done with intact groups of a presumably homogeneous nature, the characteristics of those groups are determined by the schools, may be highly heterogeneous, and may shift over time.

#### Lack of Specification for Independent Variables

A final methodological issue, raised by the reviewers of the efficacy research concerns the inadequate specification of independent variables. Kaufman, Gottlieb, Agard and Kukic (1975) maintain that the purpose of a scientific investigation is to determine the effect of a particular treatment on an obtained outcome. This strategy was employed in efficacy research utilizing between-group designs comparing the effects of special class versus regular class placement on academic and social outcomes (MacMillan & Semmel, 1977). An assumption of this design is that sufficient homogeneity exists within each treatment group to allow reasonable prediction of some consistent

effects (Kaufman et al., 1975; MacMillan & Semmel, 1977). Additionally, integration of efficacy research relies on the assumption that what is meant by special class in one study is at least similar to its meaning in another.

Unfortunately, most reviewers have noted several potential sources of large variation in the characteristics of classroom settings typically grouped together in special education efficacy research, including: teacher qualifications (Kirk, 1964), curricular differences (Semmel et al., 1979), pupil-teacher ratio and teacher competency (Strain & Kerr, 1981). MacMillan and Semmel (1977) have suggested additional confounds including variations in classroom climate and use of different instructional materials and procedures. These types of differences among classrooms of either special or regular administrative designation may more powerfully affect educational outcomes than setting type.

The issue of the specification of independent variables related to mainstreaming is a complex one. Perhaps the most widely cited definition is that of Kaufman et al. (1975):

"Mainstreaming refers to the temporal, instructional, and social integration of eligible exceptional children with normal peers based on an ongoing, individually determined, educational planning and programming process and requires clarification of responsibility among regular and special education administrative, instructional and supportive personnel" (p. 4).

The authors suggest that mainstreaming is not a singular independent variable but that it contains "an array of administrative and instructional options, each one of which may

be conceptualized as a treatment variable" (p. 1).

This notion is consistent with the contention of Leinhardt and Pally (1982) that the importance of setting as an independent variable lies in its visibility and alterability. They argue that it has little effect itself on student outcomes. Rather, other processes such as instructional practices are subsumed under it and influence outcomes. These processes are independent of setting: they can occur in regular class or special class environments.

## ANALYSIS OF EDUCATIONAL ENVIRONMENTS

In a recent policy analysis of State Annual Program Plans across the U.S., Brandis, Rader, and Halliwell (1980) investigated some of the problems facing state and local education agencies in implementing the LRE provisions of P.L. 94-142. An important finding of this study was that almost all states appeared to consider the LRE issue only in terms of administrative characteristics of service settings (i.e. special class, resource room, regular class). The relationship between the child's IEP and placement decisions was often unclear in state policies. Although the preeminent problem identified by most states implementing the LRE mandates was lack of sufficient resources, it appeared that most states also lacked a decision framework for identifying the LRE within existing resource parameters, a framework that integrates defined child needs with relevant social-psychological, instructional, and physical characteristics of various alternative placements.

Unfortunately, it is apparent that we presently know very little about the actual characteristics of various classroom environments along these dimensions. The field of Special Education is in need of conceptual and empirical work which will serve to identify critical features of various educational environments, and which will hopefully lead to methods of scaling these features and perhaps to pedagogically relevant taxonomies of educational settings. Fortunately, work of this type has been



underway in a number of related fields for several years.

### Relevant Developments in Personality and Environmental Psychology

In the field of personality psychology, a dramatic broadening in the focus of theoretical and empirical investigation has taken place in the last decade. Central to this change has been the recognition that traditional conceptualizations of personality variables are unable to account for substantial portions of observed variance in human behavior (Cronbach, 1957; Endler & Hunt, 1968; Hartshorne & May, 1928). Indeed, the centrality of the "personality trait" notion in explanations of behavior has been challenged so severely (Mischel, 1968) as to force the field of personality psychology into a major paradigm shift (Kuhn, 1970). The substance of this shift has involved consideration of situational and environmental variables in explaining and predicting human behavior. Thus, much recent work has been directed toward analysis of interactions between personal characteristics and situational or environmental factors affecting behavior (see Argyle, Furnham, & Graham, 1981; Endler & Magnusson, 1976; Fredericksen, 1972; Pervin, 1968; for relevant reviews). The importance of this theoretical perspective has been recognized by educational researchers in their search for "aptitude-treatment interactions" (Bloom, 1964; Cronbach & Snow, 1977).

Although the concept of the aptitude-treatment interaction

(ATI) has been a central one in modern educational research, efforts to empirically identify such relationships have not generally been successful (Cronbach & Snow, 1977; Duncan & Biddle, 1974). Recently it has been suggested that this difficulty has been due to an inappropriately narrow conceptualization of the domain of "treatment" factors which may be related to educational outcomes (Hunt, 1975). As Bloom (1964) noted, the failure of educational researchers to find consistent effects for instructional variables may be due to their failure to monitor and sufficiently control for potentially more powerful effects due to variation in home and classroom environments. The need for experimental researchers to expand their traditional stimulus-level analysis of instructional events to include more macro-level environmental factors affecting child learning has been noted in a number of important statements from the fields of psychology (Bronfenbrenner, 1977; Brunswik, 1956) and education (Walberg, 1969b).

This goal has been the specific focus of researchers in the relatively new tradition of environmental psychology. Moos (1973a) has outlined a number of approaches which have been undertaken to identify and measure environmental or ecological variables affecting human behavior. Six overlapping and interrelated approaches were identified. First, human environments may be analyzed in terms of ecological dimensions, including variables such as climate, architecture, noise levels, crowding, and others. A second approach is that developed by

Barker (1968) and his associates which defines human environments in terms of the characteristics of various "behavior settings." Critical attributes which distinguish behavior settings include patterns of behavior, physical aspects of the environment, and time-related activity patterns. A third approach to characterizing human environments focuses on social organizational structures. These may include characteristics such as size, staffing ratios, salary levels, and organization control features describing specific social environments such as businesses, schools, or universities.

A fourth approach emphasizes the personal and behavioral characteristics of inhabitants of specific environments (i.e., age, sex, education, or personality type) as a means of characterizing specific environments. For example, Kellam, Smelzer and Berman (1966) distinguished among psychiatric wards in terms of relative amounts of disturbed behavior exhibited on each. Fifth, human environments may be characterized in terms of their psychosocial and organizational climate aspects. This approach emphasizes qualitative and quantitative differences in social relationships among inhabitants of particular environments, most typically schools, hospitals, and residences. Moos (1973a, 1974, 1976) describes three psychosocial dimensions which appear relevant to many human environments: 1) relationship dimensions (mutual support, involvement, and assistance among individuals in a particular environment), 2) personal development dimensions (the extent to which the environment facilitates

achievement of personal goals), and 3) system maintenance and change dimensions (the characteristics of the environment which operate to maintain or change its existing social structure). The sixth approach to analysis of human environments identified by Moos consists of functional or reinforcement analysis of behavioral contingencies. Moos suggests that the viability of this approach may be limited by difficulties in identifying important continuities in the environmental events which shape behavior across individuals.

### Theoretical Antecedents

Most of the empirical work to be reviewed subsequently in the present paper reflects influences from several of the foregoing conceptual approaches to the analysis of environments. In addition, most of this work reflects theoretical orientations derived from early work in social psychology by Murray (1938) and Lewin (1951). Both Lewin and Murray developed theoretical models which focused on interrelationships between environmental characteristics and human behavior. Murray's model differentiated between the personal needs of individuals, and the press exerted by the environment. Needs refer to consistencies in the behavior of an individual which appear to be organized toward achieving a specific goal. Press variables refer to those environmental characteristics (e.g., rules, social expectations, behavioral contingencies, etc.) which facilitate or inhibit meeting a specific need. For example, certain classroom

environments might be characterized as having a high press for academic achievement. Conversely, individual children in a given classroom might exhibit a high need for academic achievement.

The differentiation of these orthogonal dimensions of the social environments organizes innumerable questions for research on the interrelationships between need and press variables, on differences between various social environments, and on differences between individuals. Many of the questions related to differences in press dimensions of social service environments (e.g., schools, hospitals, etc.), as well as questions related to degrees of "fit" between personal and environmental characteristics (Pervin, 1968) have been the subject of research which is highly related to conceptual and empirical issues regarding LRE in special education (and reviewed in the present paper).

The second major theoretical work which has stimulated research on analysis of environments has been Lewin's Field Theory (Lewin, 1951). Field theory represents a complex and highly unified model for mapping the interrelationships between personal and environmental factors affecting behavior. Lewin suggested that "field theory is probably best characterized as a method: namely a method of analyzing causal relations and of building scientific constructs" (1951, p. 45). Although Lewin's model has led to many theoretical and empirical insights which have greatly influenced social and environmental psychologists, perhaps its most important features have been related to its

comprehensiveness. Field theory emphasizes the importance of both the social and physical aspects of a situation in determining behavior. It assumes that accurate characterization of a field requires analysis of its specific features (e.g., stimuli, goals, needs) as well as its general atmosphere (e.g., friendly, hostile, tense). Thus, the characteristics of the field as a whole are just as important as its specific features - much as the specific features of physical reactions exist "nested" within the general laws of gravity (Lewin, 1951). This concept anticipated and clarified many problems later recognized related to the analysis of environments (Pervin, 1978), the ecological validity of psychological experimentation (Bronfenbrenner, 1977; Brumswik, 1956), and the study of aptitude-treatment interactions (Bloom, 1964; Cronbach, 1957). The problems related to the analysis of social environments are of particular concern in the present context.

#### Conceptual and Methodological Problems in Analyzing Environments

Difficulties in the scientific analysis of social environments are numerous and severe. Lack of agreement among researchers regarding appropriate definitions, measurement strategies, and classification algorithms for various environments reflects the relatively embryonic state of work in this area. In a recent and comprehensive review, Pervin (1978) has summarized several critical conceptual problems which investigators have encountered. A basic and pervasive problem

regards whether to analyze characteristics of the environment as independent of the individual or, rather, to view these characteristics as mediated by personal perception. Differing positions on this issue are reflected by the extent to which data collection techniques focus on "objective" or "low inference" characteristics of the environment (e.g., class size, teacher-child ratio, observed teacher behavior) as opposed to more subjectively oriented individual or group perceptions of the environment (e.g., ratings of teacher or peer support, competitiveness, rule clarity, etc.). Most recent work has been characterized by substantial attention to both subjective and objective aspects of social environments (e.g., King, Raynes, & Tizard, 1971; Moos, 1974; 1976; Walberg, 1969b).

#### Unit of Analysis

A second issue regards defining the appropriate unit of analysis for describing environments. As Pervin (1978) notes, substantial variability exists in the level at which "environmental" influences on behavior are discussed in the psychological literature. Specifically, psychologists have failed to distinguish between stimuli, situations, and environments in a consistent fashion. A clear conceptualization of the differences between these "levels" of environmental influence on the individual will be necessary before systematic analysis of their differential effects on behavior, as well as associated interactions, may be pursued. This "nested" character



of environmental influences has been conceptualized by Bronfenbrenner (1977) in terms of a series of co-existing social systems ranging from the network of immediate behavioral exchanges taking place in specific settings (microsystems) to the pervasive and overarching influence of cultural factors (macrosystems) impacting individual behavior. A similarly structured set of "levels" of environmental analysis is proposed by Pervin (1978), who includes more molecular categories. Here the stimulus level of analysis would focus on the specific objects of attention or specific response patterns of the subject. Analysis of situational factors would focus on who is involved, where the action is occurring, and the nature of the action or activities. Environmental factors would emphasize continuities in those situations encountered in daily living, relations among situations, and quality of life across situations.

In an applied context, the question of what constitutes an appropriate level of analysis for investigation of environmental influence on behavior is inextricably tied to the goals of research. In education, researchers have most typically focused on the dynamics of instruction, usually analyzing differences in methods at the stimulus level. Reviews of research on differences in educational outcomes associated with specific instructional methods suggest that instructional variables may not account for as much outcome variance as widely assumed (Bloom, 1976; Duncan & Biddle, 1974; Peterson & Walberg, 1979).

Rather, it appears that more global-level variables in the environment, perhaps such as those described as "environmental" by Pervin or as belonging to the "microsystem" by Bronfenbrenner, may more substantially affect educational outcomes (Bloom, 1964).

### Taxonomic Issues

A third area of conceptual difficulty involves development of useful classification and taxonomic models for educational environments. Although the process of classification is one of the principle endeavors of reductionist science, enduring consensus regarding appropriate bases for consistent and useful classifications of phenomena is seldom achieved - even in the so-called "hard sciences" (Sokal, 1974). Differences in opinion about what constitutes the best classification system often may be traced to differences in the purpose for which such a system is developed. Sokal (1974) has distinguished classification strategies which have as their purpose description of the "natural" system of relationships among phenomena, and those which focus on classifying objects or phenomena into a predetermined set of categories for a specific use. Clearly, these approaches to classifying phenomena are highly interrelated and often overlapping. Examples of both approaches appear throughout the research literature on analysis of environments.

Any approach to classification depends upon identification of criterial characteristics which define specific classes of

phenomena. These may be drawn from theory or from empirical data. Existing work on analysis of social environments typically reflects a mixture of theoretically, empirically, and even intuitively derived characteristics by which environments are classified (Moos, 1976; Walberg, 1979). At a practical level, inadequacies in a classification system are indicated by a) excessive overlapping variance in the functioning of supposedly distinct groups, or b) difficulties in reliably assigning individuals to a specific class. Both of these problems exist in special education. For example, the existing classification system for special educational environments (i.e., administratively oriented "cascade" systems) is problematic because of the high degree of cross-category overlap in educational outcome variance. That is, the existing classification system is an inadequate method of defining environments at a pedagogically meaningful level - even though it is a perfectly adequate means of classifying administrative arrangements!

The second type of inadequacy in special education classification systems is exemplified by difficulties with the prevalent systems for classifying children. These classification systems attempt to reliably assign individuals to specific disability categories (i.e., educable mentally retarded, learning disabled, behavior disorder) (Salvia & Yssoldyke, 1981). However, factors such as changing and vague diagnostic criteria, inadequate reliability of assessment procedures, local politics,

racial biases, and legislative enactments have resulted in the assignment of children with similar characteristics to different educational categories (MacMillan, Meyers, & Morrison, 1980). Fredericksen (1972) has clarified the generality of this problem in noting that attempts at classifying individuals are frequently beset by problems of reliability. He suggests that taxonomies based on attributes of individuals may be a more useful approach in some contexts. This is the logic implicit in recent shifts toward "noncategorical" child identification in special education, wherein children are differentiated in terms of various attributes related to specific educational needs rather than by disability category.

A final distinction among basic classification strategies is relevant to problems in the analysis of social environments. Sokal (1974) has noted that the gradual acceptance in many scientific disciplines of classification systems based on polythetic groups: those that have in common a set of characteristics, no single one of which is necessary for definition of the group or of membership in it. This approach is contrasted with monothetic classifications, where groups differ by at least one characteristic which is uniform among members. Polythetic classification involves analysis of multiple attributes of objects or phenomena - allowing more differentiation among them.

The proposal of the present paper is that the "polythetic" approach to analysis and classification represents an important

developmental step for research on educational phenomena, as it has in other areas of scientific endeavor. It clearly suggests moving beyond the narrow characterizations of educational environments which have typified attempts to define the "least restrictive" environment to date. The level at which such polythetic characteristics of educational environments might most profitably be studied at present seems to be that defined as the "environmental" level by Pervin (1978) or the "micro-system" by Bronfenbrenner (1977). This level of analysis focuses on the characteristics of recurring social interactions, social relationships, and psycho-social climate which obtain in various classroom environments. Methods for collecting data relative to these phenomena are outlined below, followed by extensive review of existing empirical work on analysis of social environments which has relevance to special education classrooms.

### Methods of Describing Environments

#### Analysis of Environments Through Direct Observation

Efforts to systematically analyze characteristics of social service environments have been underway for several decades. Early research was focused on observation and description of aspects of teacher-student interaction in classrooms. For example, Wrightstone (1934) developed an observation instrument which categorized teacher behavior as "integrative" or "dominative." A similar notion guided Withall's (1949)

development of the Climate Index, which assessed the "teacher-centered" or "learner-centered" characteristics of classroom environments. The Climate Index consisted of a categorization of teacher behavior along a continuum from "learner-supportive" statements to "teacher self-supporting" statements. Using this tool Withall observed consistent differences in the behavior of various teachers toward a group of junior high school students. Additional aspects of the classroom social environment were investigated by Medley and Mitzel (1953). They developed the Observation Schedule and Record (OSCAR) to assess emotional climate, verbal emphasis, and social organization in the classroom. Later, Flanders' Interaction Analysis System (Amidon & Flanders, 1963) was developed as a complex direct observation instrument for assessment of classroom social climate. This widely utilized tool probed both teacher and student behavior in an attempt to describe relationships between "direct" and "indirect" aspects of teacher influence and student behavior.

Another influential approach to analysis of environments through direct observation has been developed by Barker and his associates (Barker, 1968; Barker & Gump, 1964). Utilizing an ethnographic-type naturalistic observation methodology, Barker attempted to identify distinct "behavior-settings" in various social environments, based on theoretical percepts from Lewinian Field Theory (Lewin, 1951). Barker conceptualized behavior settings as consisting of social-behavioral, physical, and

temporal attributes. Social-behavioral attributes are comprised by various consistent patterns of behavior exhibited by individuals within the setting. Physical attributes include discriminable boundaries within which such consistent behavior takes place (e.g., classrooms, theatres, dining rooms) as well as other prototypical physical "furniture" of the setting (e.g., paper, blackboard, chairs, and desks for a classroom setting). Temporal attributes refer to consistent time frames in which behavior settings operate, for example a courtroom "in session," a classroom "during recess," a history lecture "Tuesday and Thursday at 10 a.m." It is the interrelationships of these attributes that aggregate to define a specific behavior setting.

Barker and his associates have conducted research which has attempted to describe relationships between specific types of behavior settings and personal behavior. Several investigations have focused on the effects of "undermanned" versus "overmanned" behavior settings. The classic study in this line of research was conducted by Barker and Gump (1964) in five high schools in Kansas which varied greatly in size. It was found that students in smaller, "undermanned" high schools participated in a wider variety of behavior settings, and tended to have more central, functional, and responsible roles in behavior settings in which they participated. Students in the smaller schools reported more feelings of satisfaction associated with development of competence, cooperation, and meeting challenges. Similar findings have been reported by Baird (1969) and Willems (1967).



Other researchers have used the Barker framework to develop taxonomies of behavior settings. Price and Blashfield (cited in Moos, 1976) assessed the behavior settings identified for a small midwestern town in terms of 43 descriptive variables. Cluster analysis techniques were utilized to identify types of behavior setting which were similar. Twelve types of settings were distinguished, including elementary school settings, youth performance settings, adult settings, religious settings, family-oriented settings and others.

Direct observation techniques have, of course, a high degree of face validity as a method of describing environments due to the relatively low level of inference required for interpreting the data. However, the high costs of direct observation has precluded its use in many studies - especially those which require comparison or aggregation of data across a large sample of settings. Additionally, some researchers have argued that it is the subjective reality experienced by inhabitants that is of primary concern relative to many issues in the analysis of social environments (Moos, 1976). These concerns have led to development of numerous questionnaire approaches to data collection.

#### Analysis of Environments through Questionnaires

Utilization of questionnaires has allowed researchers to collect information describing large numbers of social environments at relatively low cost. Several early examples of this approach exist. Stern (1970) utilized the Murray

needs-press conceptualization to develop the High School Characteristics Index. This tool described the attitudes, activities, and procedures typical of secondary school environments. The Index was comprised of thirty scales measuring such "need" and "press" variables as achievement, adaptability, deference, dominance, nurturance, objectivity, and play. Other work, also based on the Murray needs-press model, was directed toward analysis of college environments. For example, Pace and Stern (1958) developed the College Characteristics Index to measure curriculum, activities, rules, policies, and organizational characteristics of various colleges. Hemphill (1958) employed questionnaires to develop a taxonomy of executive positions. He asked business executives to respond to items which described job behavior and situations according to the degree to which the item reflected his/her own position. Inverse factor analysis identified executives with similar jobs, which were characterized in distinct categories such as work supervision, long range planning, business control, and others.

Early use of questionnaires to assess elementary educational environments is represented by the work of Halpin and Croft (1963). They developed the Organizational Climate Description Questionnaire, which was used to characterize primary level classrooms in terms of six empirically determined categories including "open," "autonomous," "controlled," "paternal," and others. Subsequently, a number of questionnaire instruments have been developed for assessing school environments in the context

of several major lines of research. These are reviewed in a subsequent section of this paper.

In addition to research directly aimed at analysis of classroom environments, two other research areas have employed techniques for analyzing social environments which have relevance to special education. First, a literature exists which describes various psychiatric treatment environments. Studies in this area are relevant to special education because of similarities in the types of questions which have been pursued, as well as because of methodological developments which have impacted techniques of analysis for educational environments.

The second area of research relevant to issues in education has focused on special education populations - in residential service contexts. Both the methodology and many of the findings of this work, which has been underway for over a decade, have direct implications for the analysis of special education classroom environments.

#### Analysis of Psychiatric Treatment Environments

Although systematic approaches to the measurement of characteristics of psychiatric environments are relatively new, the importance of specific aspects of treatment environments in improving or exacerbating patient behavior has been recognized since the eighteenth century (Moos, 1974). A resurgence in attention to environmental effects on patient behavior was

reflected in investigations of social conditions in mental hospitals, which led several researchers to the conclusion that characteristics of the treatment setting had critical and, in many cases debilitating effects on patient behavior (Goffman, 1961; Stotland & Kobler, 1965). For example, Stanton and Schwartz (cited in Moos, 1974) studied treatment ward environments and concluded that the "environment may cause a symptom" (p. 5). Goffman's famous ethnography on life in "total institutions" revealed that treatment environment conditions led to breakdown in normal patterns of life and behavior, including the development of separate social systems involving patients and staff, with little interchange between them. Those findings led a number of researchers to attempt systematic description of treatment environments, with the ultimate goal of explicating relationships between specific characteristics of the social environment and patient outcomes. Goals of various studies may be classified roughly as description, classification, or comparison of psychiatric treatment environments. In the section following, examples of each of these types of studies are provided.

#### Descriptive Studies of Treatment Environments

Several early attempts were made to systematically measure important psycho-social aspects of psychiatric treatment settings. For example, Kellam et al. (1966) attempted to identify characteristics of psychiatric ward environments

associated with specific types of treatment programs and outcomes. They devised a questionnaire which measured the dimensions of disturbed behavior, adult status (the extent to which patients were allowed to retain symbols and privileges of competent adults), and patient-staff ratios (including a measure of social contact). Twenty-seven wards from nine hospitals including small, low admission-rate hospitals, large state psychiatric hospitals, and general hospitals were included in the study. Results indicated that extremely high within-hospital variance existed across treatment wards on the dimensions of disturbed behavior and adult status. Similar staff ratios were found across hospitals. Unexpectedly, ward size rather than staff ratios or disturbed behavior was found to correlate most highly with adult status dimensions.

In another early report, Jackson (1964) described the development of the "Characteristics of the Treatment Environment" instrument (CTE). The CTE consisted of 72 items concerning conditions in the immediate environment of patients on psychiatric wards. Items were aggregated to index six aspects of treatment environment effects on patients' initiative and creativity, self-esteem, anxiety, understanding of own illness, distortion of reality, and participation. An aggregate score was assigned to indicate the overall therapeutic value of the ward. Although an attempt was made to utilize items which reflected objective aspects of the treatment environment, the author later revised the CTE to eliminate many of its assumptions about

relationships between treatment factors and patient outcomes (Jackson, 1969). The revision of the CTE was conducted through factor and cluster analysis of the original (1964) data. Five orthogonal factors were obtained: 1) active treatment: the degree of staff activity directed toward patient welfare and improvement, 2) socio-emotional activity: the degree to which normal socio-emotional relations and activity are permitted, 3) patient self-management: the degree of patient responsibility for self and others, 4) behavior modification: degree to which staff attempts to influence, demand, or control specific behaviors of patients, and 5) instrumental activity: the degree to which normal choice-making and rational problem solving are encouraged. This revision of the CTE to emphasize environmental factors independent of patient characteristics allowed for empirical investigation of treatment effects, including the possibility of interactions between patient and environment characteristics.

The possibility of interaction effects between person characteristics and specific treatment settings and behavior was a focus in other early work on the analysis of psychiatric treatment environments by Moos and his colleagues (Moos, 1967; Moos & Daniels, 1967). For example, Moos (1969) observed 16 psychiatric patients in six ward settings (e.g., intake meeting, group therapy, face time, lunch) to assess the extent of person by setting interactions on patient behavior. In addition to direct observation of patient behavior, questionnaire measures of patient feelings and appraisals of the environment in each of the

settings were also obtained. As predicted, important interaction effects were found. Results on the questionnaire measures indicated that between zero and 45% of response variance was attributable to person factors, zero to 18% of variance was due to setting factors, and nine to 38% of the variance was due to person by setting interactions. On behavioral measures a much higher proportion of total variance was due to setting than for the questionnaire measure although this result was not consistent across behaviors such as smoking and talking. Moos found that person by setting interactions also accounted for more behavioral variance than setting alone. The proportion of variance due to setting effects increased over time on both questionnaire and observational measures.

The need for more sensitive measurement of consensual perceptions (Murray's "beta press") of treatment environments by patients and staff which might be related to differential effects of various environments led the Moos group to devise the Ward Atmosphere Scale (WAS) (Moos & Houts, 1968). The initial Form A of the WAS consisted of 206 items which were administered to patients (N=365) and staff (N=131) on 14 psychiatric wards from various types of hospitals. Psychometric analysis of results produced a shorter (120 item) Form B of the WAS, which differentiated the treatment environments represented by the 14 wards. Twelve scales were obtained which measured perceived environmental press along dimensions such as affiliation, spontaneity, aggression, support, and submission. Ward profiles



were constructed from aggregated patient and staff perceptions. The WAS has subsequently been adapted for use in community based treatment programs including separate questionnaires which tap "real" and "ideal" conditions as perceived by clients and staff (Moos & Otto, 1972). The basic model for analysis of social environments represented by the WAS has been applied extensively in educational contexts (see Moos, 1979).

### Classifications of Treatment Environments

Price and Moos (1975) have attempted to use the WAS on a large population of treatment environments in order to develop a taxonomic classification of such environments. The broader purpose of this research was to assess whether typologies of treatment environments could be constructed which would be useful in delineation of person-treatment interactions. Price and Moos used the WAS with 144 treatment programs drawn from various types of psychiatric treatment facilities: private hospitals, VA hospitals, state hospitals, and university affiliated hospitals. Responses from patients in each treatment program were subjected to cluster analysis, which yielded differential WAS profiles for six types of programs.

The six distinct types of programs varied in terms of their emphasis on underlying psycho-social dimensions. For example, one cluster or program type was termed "therapeutic community programs": those which reflected high scores on treatment dimensions and low scores on program maintenance dimensions. In

contrast "relationship-oriented programs" were those that showed higher emphasis on personal relationships and social interactions than upon treatment factors. Other types of programs which were identified included "insight-oriented," "control-oriented," "disturbed behavior," and "action-oriented." Results of this investigation further showed correlations between program type and institutional affiliation. For example, therapeutic community programs were not found in VA hospitals, and action oriented programs occurred mostly in state hospitals. Control-oriented programs were most often found in VA hospitals. Differences in program type were also associated with institutional size and staffing ratios. Large treatment settings tended to be either control-oriented or insight-oriented. Settings with large patient-to-staff ratios tended to be of the insight-oriented, action-oriented, or control-oriented types. The authors noted that the large variance in type of treatment program found within specific types of institutions did not support common assumptions about institutional affiliation and type of program. For example, state hospital facilities, rather than being exclusively control oriented, often sponsored therapeutic community programs. The authors further noted that variance in program types within a specific institution often equals variance between institutions - suggesting the inadvisability of program classification by administrative arrangements alone.

### Comparisons of Treatment Environments

A number of studies have been carried out for the purpose of directly comparing various treatment environments along a number of dimensions. For example, Moos (1976) compared 55 VA hospital wards of various size and staffing ratio characteristics using the WAS and the Ward Information Form (Kellam et al., 1966). Obtained correlations between size and staffing ratio were nonsignificant, enabling separate assessment of these variables on ward social climate. Similarly to the Kellam et al. (1966) findings, results indicated that ward size was positively correlated with disturbed behavior, and negatively correlated with the amount of adult status accorded patients. Ward size was negatively correlated with the perceived social climate dimensions of relationship, personal problem and autonomy orientation, while positively correlated with staff control. Results for the staff ratio variable indicated that as staff-to-patient ratios increased, patients (and staff) perceived greater emphasis on the treatment and relationship dimensions of the environment, with concomitantly less emphasis on staff control. Moos noted, however, that large variance in the strength and directionality of associations between social climate and size and staffing variables existed - that is, several exceptions to the generally obtained relationships were found, indicating that specific arrangements may ameliorate or even override size and staffing effects.

Other comparative investigations have attempted to uncover

correlations between ward social climate and treatment outcomes. Moos and Schwartz (1972) reported treatment outcomes on seven large wards in one VA hospital. Using the WAS and the WIF, they found several relationships between ward social climate and treatment outcome. For example, high release rates and low dropout rates were associated with programs perceived as high in practical orientation. Length of community stay (for readmitted patients) was correlated with programmatic emphasis on practical orientation and staff control. Conversely, high dropout rates were correlated with low practical orientation, low order and organization, low support and involvement, and low program clarity. These wards were characterized as relatively high in anger, aggression, and staff control. The author also noted evidence that different types of patients apparently respond positively to differing types of ward social milieu characteristics.

A similar study was conducted by Moos, Shelton, & Petty (1973). These investigators attempted to derive three subscales of the WAS which would consistently correlate with treatment outcome. Dropout rates, release rates, and length of community tenure were monitored for eight small VA hospital wards and seven large VA wards. Responses on the WAS were obtained from 111 patients and 88 staff members. Results showed that 15 WAS items were correlated with dropout rates, but not with other treatment outcomes. These items reflected programs that were low in involvement, support, program organization and clarity. Fourteen

items were correlated with release rates, but not with the other outcome variables. These items indicated ward emphasis on practical orientation, well-organized and clear program, and moderate staff control. Finally, 12 items were associated with community tenure, but not with dropout or release rates. These items reflected open expression of feelings, support of autonomy, practical orientation, and organized and clear program. No consistent correlations were found between patient characteristics and perceived climate or outcome.

Other comparative studies of psychiatric ward environments have assessed results of interventions designed to improve social climate. Pierce, Trickett, & Moos (1972) used the WAS to describe characteristics of a psychiatric ward in a general hospital, including patient and staff perceptions of both "Real" and "Ideal" ward conditions. Discussions of WAS results, including discrepancies between real and ideal conditions were conducted with ward staff, leading to specific suggestions for improving some dimensions of the program. Post tests on the WAS showed that both patients and staff perceived changes in ward atmosphere toward more "Ideal" characteristics. Staff and patients agreed on the direction of these changes in nine of twelve dimensions measured by the WAS.

A similar study of treatment effects associated with feedback regarding perceived psychosocial atmosphere was conducted by Moos (1973b) in a community residential program for adolescents with emotional and behavioral disturbances. Both

staff and residents responded to the "Real" and "Ideal" forms of COPEs, the community-oriented revision of the WAS (Moos & Otto, 1972). Again, feedback on perceived real and ideal program characteristics was used to develop program changes. Retesting on the COPEs suggested that both staff and residents felt the program more closely approximated ideal characteristics along most dimensions. However, on two dimensions (personal problem orientation and anger and aggression), the program was viewed as farther from ideals than at pretesting. The author noted that this result was apparently due to a change in the stringency of the ideals held on these dimensions, and a desire to improve the program substantially in these areas.

### Summary

Overall, findings from this area of research have suggested that important psycho-social characteristics of treatment environments can be reliably described, meaningfully categorized, and even controlled in a fashion which may improve outcomes. Similar goals might profitably be pursued in the context of research aimed at analysis of special education classroom environments. Important questions regarding the viability of this approach with populations with varying degrees of cognitive and social impairments may be raised - particularly in view of the high degree of participant involvement for many of the most promising assessment instruments (e.g., WAS, COPEs). Fortunately, an extensive corpus of work has been reported which

has used a similar range of methodologies for analyzing characteristics of residential range of environments for individuals with mental retardation and other developmental disabilities. This work is reviewed in the following discussion.

### Analysis of Residential Environments Serving People With Mental Retardation

The majority of research and development efforts aimed at analysis of residential environments may be broadly conceptualized as belonging to one of two distinct (but not unrelated) lines of investigation. The older line of research has sought to determine what effects the experience of institutionalization may have on children (Clarke & Clarke, 1954; Skeels, 1966; Skeels & Dye, 1939; Zigler, 1958). An important advance in investigations related to this issue was signalled by the work of King and Raynes (1968) in Great Britain. These researchers developed methods for describing and measuring institutional characteristics, including specific resident care practices, in much more detail than had previous workers. Methodological advances led to a multitude of studies which have attempted to identify important characteristics of various residential environments related to developmental outcomes (e.g., Calla, Butterfield & Zigler, 1974; Tizard, Cooperman, Joseph & Tizard, 1972).



A second line of research and program development work has grown more recently out of shifts in social policy during the late 1960s and early 1970s toward the deinstitutionalization of residential services for citizens with mental retardation. This movement has been frankly non-empirical in nature, deriving its goals from ideological sources, particularly the social service principles of normalization (Wolfensberger, 1972). Empirically-oriented professionals have criticized rapid policy shifts toward deinstitutionalization as precipitous in the absence of conclusive evidence of client benefits (e.g., Zigler & Balla, 1977). Consequently, numerous studies have been conducted which have attempted to assess the characteristics of residential environments associated with positive outcomes on both developmental measures and on measures of the "quality of life" experienced by residents.

In addition to these two major foci of research on analysis of residential environments, a number of program evaluation projects have been reported. These investigations represent a direct extension of the work of Moos and others in identifying the psycho-social characteristics of specific treatment programs (McGee & Woods, 1978; Pankratz, 1975).

Research which has focused on analysis of residential environments in these areas of research is reviewed in following sections, corresponding to the predominantly descriptive, taxonomic, or comparative purposes of specific studies.

### Descriptive Research on Residential Environments

Early attempts to systematically describe and quantify important psycho-social aspects of residential environments were reported by King and Raynes (1968). Following up on Goffman's ethnographic description of "total institutions," King and Raynes attempted to identify and measure resident care practices which were more or less "institution-oriented" or "resident-oriented." They differentiated between resident-oriented and institution-oriented practices along four dimensions: 1) rigidity of routine, 2) block treatment of residents, 3) depersonalization of residents, and 4) social distance between residents and staff. To assess these characteristics of residential environments, the investigators developed the Inmate Management Scale (IMS). The IMS was comprised of questionnaire items which were assumed to be relatively independent of IQ, severity of handicap, and cultural norms, and which allowed rating of specific resident care practices as institution-oriented, mixed, or resident-oriented. Results of the questionnaire conducted with ward charge nurses showed that the IMS did identify differences in care practices across various types of residential facilities. Children's homes and hostels for clients with mental retardation were characterized by the most resident-oriented practices, while "mental subnormality hospitals" were characterized as employing the most institution-oriented practices.

Later work aimed at describing similar aspects of

residential environments resulted in revision of the IMS. McLain, Silverstein, Hubbell and Brownlee (1975) developed the Residential Management Survey (RMS) based on the earlier King and Raynes instruments. McLain et al. used the RMS, as well as the Characteristics of the Treatment Environment (CTE) instrument described earlier (Jackson, 1964, 1969), to assess differences in residential environments across 43 wards in a hospital for people with mental retardation. Two administrations of the instruments were carried out, one in September and one in June. Results of these measures indicated clear and stable differences between programs with differing therapeutic goals, as well as among wards within specific programs. These differences were not related to staff demographic or employment characteristics.

Pratt, Luszcz, and Brown (1980) also used methods developed from the King and Raynes work to investigate differences among seven small community residential environments in Nova Scotia. They utilized four observation and interview scales adapted from the recent work of Raynes, Pratt and Roses (1979): a Management Practices Scale (which measured aspects of the program's daily schedule and events), the Informative Speech Index (a measure of staff speech to residents), an Index of Community Involvement, and an Index of the Physical Environment. Additionally, staff attitude data were collected. Results revealed large variance in staff speech and community involvement across programs, with less variance among the programs in terms of management practices and physical environment. Comparison of these data with profiles

collected previously on institutional settings (Raynes, et. al., 1979) indicated that the group homes were more resident-oriented in care practices, more involved in the community, had more physical amenities, and were characterized by less controlling speech to residents than were the institutions.

PASS. The primary method developed for the analysis of residential environments (as well as other service settings) according to the principles of normalization is the Program Analysis of Service Systems (PASS). Originally developed in the late sixties as part of a program evaluation component for mental retardation service system upgrading in Nebraska, PASS has undergone several revisions (Wolfsenberger & Glenn, 1975) and is now one of the most widely tools of this type. Items in PASS reflect a "values-orientation" to identifying desirable characteristics for human services rather than an attempt to derive empirically-based criteria for quality service systems. The assessment procedure entails observations, interviews, and review of program records. Based on these data, three independent raters assign scores for the program on 50 evaluation items. Each item has a range of possible ratings corresponding to specific program characteristics ranging from unacceptable to ideal. Items are keyed to both process and product aspects of service, consistent with the normalization emphasis on consideration of the quality of means, as well as outcomes, in human services design.

Psychometric work conducted on PASS (described in

Wolfsenberger & Glenn, 1975) indicates that most items correlated significantly with each other, and with the overall test score. Factor analysis of 102 PASS evaluation scores revealed 12 factors: normalization-program (this factor accounted for 30% of variance in total scores), administration (this accounted for 12% of observed variance), normalization-service facility, setting proximity and accessibility, orientation to student manpower, aesthetic quality of setting, social integration-program, age-group priorities, consumer and public participation, program evaluation and change, service comprehensiveness, and a relationship factor. Some comparative findings from the 102 program sample included a) higher scores for community than institutional settings, b) decreasing service quality as a function of client age, c) higher scores for mental retardation services as compared with mental health services, and d) highest scores for children's developmental services, followed by vocational, residential, and recreational services.

The other major type of descriptive study which has been carried out in residential settings serving clients with mental retardation has represented an extension of methodologies developed for psychiatric settings (Moos, 1968, 1972). For example, Pankratz (1975) conducted a program evaluation of community half-way houses for adults with mental retardation, using the Community-Oriented Programs Environment Scale (COPEs) developed by Moos and his colleagues. The residents of the two houses evaluated by Pankratz ranged in age from 18 to 36 years,

and were characterized as mildly to moderately retarded. The COPEs was administered to both staff and residents. Results showed substantial agreement between perceptions of the environment by staff and residents, although one of the programs was scored lower on "involvement" and "support" by residents than staff. Program profiles were similar to those of existing norms from other residential service environments (see Moos, 1976, for a review), with the exception that the mental retardation programs were perceived as higher in staff control than the norms. This study suggests that the Moos instruments may be implementable with mentally retarded populations - at for least older, higher functioning residents.

A second program evaluation study carried out using the Moos methodology was reported by McGee and Woods (1978). They used the Ward Atmosphere Scale (Moos & Houts, 1968) to assess the perceived psycho-social characteristics of a residential vocational training center for adolescents with mild to moderate mental retardation. Comparisons were carried out for staff vs. resident scores and scores for "Real" vs. "Ideal" test forms for staff (see previous review of WAS). Results indicated that standard deviations for staff responses compared reasonably well with Moos' (1974) national sample of 160 psychiatric residential unit staffs. Resident responses showed more variability than did those of Moos' sample of psychiatric patients, indicating that the WAS may be more difficult to interpret with adolescents with this level of mental retardation. However, McGee and Woods found

a good deal of consistency in the perceived characteristics of the program environment by staff and residents. Similarly to the Pankratz study, residents scored the program as lower on some dimensions (practical orientation, encouragement of anger, rate clarity) than did staff. Discrepancies between staff responses to Real and Ideal forms of the WAS indicated that they desired more involvement, order and organization, and less spontaneity, anger, and aggression. These results were utilized in planning changes in the existing program.

### Classification of Residential Environments

To date relatively little work has been conducted to develop classifications of residential environments for people with mental retardation based on the empirically assessed characteristics of those environments. Similarly to most taxonomic conceptualizations of special education settings (e.g. Deno, 1970), classification of residential environments has typically focused on administrative arrangements alone. The distinctions between institutions, nursing homes, community foster-care, group homes, independent living arrangements and others have typically been assumed rather than directly investigated (Balla, 1976). Investigations which have been carried out have typically found large and overlapping variance in the actual characteristics of specific residential settings within each of these administrative categories (e.g., King, Raynes, & Tizard, 1971; McCormick, Balla, & Zigler, 1975; Peck,



Blackburn, & White, 1980).

The purpose of environmental classification efforts should be to reduce intra-category variation in the actual characteristics of category members. This goal has been pursued in two distinct ways. In the first, a set of characteristics has been defined apriori which map onto the elements a philosophy of human service ideals. Various service programs may then be fit to existing categories according to the match between category criteria and actual characteristics of the program. This approach is exemplified by the work of Budde and his colleagues.

Budde (1976) utilized the philosophical principles of normalization to construct a taxonomy of residential service models according to the "quality of life" each provides. The taxonomy consists of a continuum of service models, ranging from segregated custodial services focused on providing subsistence alone to fully integrated services aimed at supporting individuals in independent living arrangements. The Budde model, termed the Alternative Living Environments Rating and Tracking System (ALERT), differs from traditional administratively designated taxonomies in its reliance on a number of environmental characteristics in addition to administrative setting (i.e. institution vs. community group home) as part of its classification system. Thus, environmental characteristics such as privacy, staffing arrangements, actual social integration, and others are used to categorize specific programs. The ALERT system dichotomizes program categories as "restrictive"

or "least restrictive." However, the conceptual basis for this distinction lacks clarity - being based (according to the author) on "professional opinion" regarding the types of settings in which people with severe handicaps could possibly be served. Additionally, no rigorous method for determining the presence or absence of specific environmental characteristics is proposed, although many of them (e.g., location, staff arrangements) would be rather easy to assess.

A second, more inductive approach to developing useful categories of residential service environments is based on the construction of program typologies from descriptive data on observed variations in program characteristics. Work of this type is exemplified by Butler and Ejaanes' (1977) effort to construct a classification system reflecting observed characteristics of residential environments. Based on preliminary descriptive data from program observations, these authors hypothesized that three types of residential environments could be identified: custodial, therapeutic, and maintaining. Custodial environments were characterized by a lack of organized and structured activities and little or no attempt to achieve the goals of normalization. Therapeutic environments were identified by their emphasis on providing activities and programming that would enhance the social competence of their residents, and in their vigorous pursuit of normalization goals. The maintaining type of environment fell between these two extremes, with sufficient organized and structured activities to avoid

regression in resident social competence. Inclusion of specific programs into one of these identified "types" was based on ratings for factors such as habilitative programming, community interaction, caretaker involvement, sheltered workshop participation, and others. Caregiver attitudes were measured by the Therapeutic Orientation Scale, which assesses staff opinions of the abilities of the residents, and of people with developmental disabilities in general.

Testing their typology against preliminary observation and interview data from a sample of community care facilities, Butler and Bjaanes found that differences between programs did exist along the dimensions they had identified. Various program types cut across administrative categories, for example, custodial types of practices, were found in both small, community-based programs and much larger board and care facilities.

#### Comparative Studies of Residential Environments

A multitude of studies have been carried out to compare and contrast differences between various residential environments. The specific question(s) pursued by each of these studies have been complex, sometimes vague, and often overlapping. However, several relatively distinct lines of inquiry may be differentiated. As noted earlier, a set of research questions has grown out of early attempts to delineate the effects of institutionalization on children and adults (Skeels, 1966; Skeels & Dye, 1939; Zigler, 1958). Recent research in this area has

compared residential programs to identify relationships between organizational characteristics of residential environments (e.g., staffing patterns, ward size) and patterns of client care likely to affect developmental outcomes, particularly in the language and social domains (McCormick et al., 1975; Raynes et al., 1979; Tizard et al., 1972).

A second line of investigation has attempted to provide empirical evidence relative to the effects of the normalization of residential environments on resident outcomes (Eyman, Demaine, & Lei, 1979; Hull & Thompson, 1980). A third cluster of studies has attempted to compare residential environments associated with various administratively defined types of settings, for example, institutions vs. group homes (Butler & Bjaanes, 1977; Seltzer, 1981). Finally, some investigations have attempted to assess the effects of specific interventions designed to improve residential environments (e.g., Hemming, Lavender, & Pill, 1981; Levy & McLeod, 1977).

Each of the foregoing lines of investigation is exemplified below.

#### Organizational Characteristics and Resident Care

Although early studies of the impact of the institutionalization experience on child development offered evidence that variations in the social environment within the institution itself had important consequences for residents (Skeels, 1966; Skeels & Dye, 1939), these results were generally

interpreted only as evidence of the deleterious effects of institutionalization. Important insights in recognizing some of the complexities underlying the effects of institutionalization were contributed by Zigler and his colleagues (Zigler, 1958; Zigler & Williams, 1963), who demonstrated the importance of the personal characteristics and social history of individuals entering institutional environments in determining outcomes. Conversely, King et al. (1971) recognized and systematically studied the importance of various environmental characteristics of specific institutional settings in affecting outcomes of the institutional experience.

A number of important studies subsequently have been directed toward comparing care practices and developmental outcomes associated with certain organizational characteristics of residential services. An early investigation of this type was reported by Tizard et al. (1972). Although this research was carried out with nonhandicapped children, it exemplified the logic and methodology to be followed in a number of subsequent investigations in residential institutions for retarded populations.

Noting the common assumption that institutional environments have deleterious effects on child language development, Tizard et al. utilized interviews, direct observation, and psychological tests to assess differences in child language outcomes associated with different staff behavior and organizational characteristics of individual residential units. Thirteen residential units in a

"high quality" residential nursery for children awaiting adoption were studied. These programs were characterized as possessing a "homelike atmosphere" and well trained staff. Measures of organizational factors included: 1) staff autonomy: the number of decisions staff made for themselves, 2) staff stability: length of time working with the same children, 3) staff-child ratios, and 4) mean child age on residential unit. Staff behavior measures included: 1) staff activity (i.e., housework, physical care, social activities) with the children, and 2) staff talk. Staff talk was categorized as informative, negative control, express pleasure or affection, express displeasure or anger, choices, and supervisory talk. Child outcome variables included measures of child talk (whether the child talked, to whom, in response to whom, and whether the staff talked to the child), and psychological tests of language and nonverbal development.

Results indicated that high scores for residential units on a composite of the social organization variables were associated with qualitative differences in staff talk. More informative talk was observed in these residences, together with a higher predominance of explanations over commands, as well as fewer negative commands. No differences in the quantity of staff talk or in the quality of observed child talk were found. On the psychological measures of development, correlations were obtained between the children's verbal comprehension scores and the social organization variables as well as several dimensions of staff

behavior (social activities with children, informative talk, staff replies to child talk). The results of the Fizard et. al. study were important because they represented empirical evidence for important differences in the effects of varying residential environments on child outcomes, as well as identifying possible causal links between organizational factors and staff behavior associated with differences in child outcomes.

Later research utilizing similar logic and methodology was carried out to assess the effects of varying institutional characteristics on residents with mental retardation. A major study of this type was conducted by McCormick et al. (1975). They studied the relationships between size, resident characteristics, cultural context (U.S. vs. Scandanavia), and resident care practices in institutions for the retarded. A total of 19 residential facilities in the U.S. were studied, including group homes (7-24 residents), community based medium-size facilities (10-116 residents), and large state institutions (over 1000 residents). Eleven facilities were studied in Scandanavia, with a similarly comprehensive range of size, setting, and resident characteristics. The Child Management Inventory (CMI) developed by King and Paynes (1968) was used to measure care practices, including 1) rigidity of routine, 2) block treatment (i.e., regimentation) of residents, 3) depersonalization (i.e., opportunities for privacy, personal possessions, self-expression), and 4) social distance (i.e., limits of interaction between staff and residents. The CMI was



administered as a structured interview with senior direct care staff in the U.S. and through mail questionnaires to comparable staff in Scandanavia. Informal direct observation checks were made to assess the accuracy of staff reports on resident care practices.

Analysis of variance procedures revealed significant main effects for comparisons by country (U.S. vs. Scandanavia), institution size (large, medium, small), and level of retardation. More resident-oriented care practices were found in Scandanavia, in smaller facilities, and for clients with less severe levels of mental retardation. Demographic differences in U.S. programs indicated that higher numbers of residents were assigned to a single residential unit when residents were more severely retarded. This pattern was not evident in Scandanavia. Proportional allocation of resources to professional and direct service to clients increased as severity of retardation increased in Scandanavian programs, but not in U.S. programs. The authors suggested that improvements in resident care practices in the United States might be facilitated by smaller unitization of residential programs. Overall, the McCormick et al. investigation suggested that previous ambiguity in findings related to effects of varying institutional environments housing retarded populations might well be reduced through more careful empirical assessment of variations in resident care practices. Their results demonstrate that important differences do exist among residential environments for the retarded, and that these

differences are predicted by size, resident characteristics, and cultural factors.

A related study was conducted by Raynes et al. (1979) within three large state institutions for people with mental retardation in Massachusetts. These facilities were under a state mandate to "unitize" (i.e., decentralize administrative functions) as a means of providing more individualized care. The study was carried out to assess the effects of this reorganization on resident care practices, as well as to study the relationship of various organizational practices and dimensions of individualized care. Interview data were collected on resident characteristics related to self-help skills, academic abilities, daily activities, and behavior problems. Resident care practices were assessed through observation and interview using the Revised Resident Management Practices Scale (RRMP) based on the work by King and Raynes described previously. Additionally, measures of care practices were obtained related to staff speech (categorized as informative, controlling, other talk, no talk), physical environment (privacy, individual storage, furnishings), and community contact (visits to movies, park, friend's house, etc.). Dimensions of organizational structure related to staffing were assessed in terms of centralization of decision making, formalization (i.e., extent of rules and regulations governing decision making), communication among staff, and specialization (division of labor by professional role).

Results of the Raynes et al. research indicated large

within-institution variance in care practices, client characteristics, and staff behavior. However, significant differences among residential units within each of the institutions were found associated with client characteristics and organizational factors. Consistent with the McCormick et al. findings, there was a consistent relationship between the severity of client handicaps and reduced community contact, poorer physical environment, and the extent of institution-oriented practices. This relationship did not appear to be directly caused by low client ability, since there was substantial within-group variability in care practices observed for even the lowest functioning, profoundly retarded residents. The authors summarized these findings succinctly, "the less able got less of everything" (p. 83).

Other findings indicated significant effects of unit size on resident care practices. The authors noted that this was due to higher proportions of resident-oriented practices in units with less than 30 residents. No differences were found for size among units serving more than 30 residents, where care practices became typically institution-oriented.

These findings clarify aspects of the long-standing controversy over the relationship of size to quality of care in residential institutions. The finding of "no difference" in care practices and developmental outcomes for institutions of varying sizes has typically been reported when the the number of residents in observed institutions has exceeded 100 (Balla, 1976;

Balla, Butterfield, & Zigler, 1974; McCormick et al., 1975). It appears that size is a relevant factor in predicting characteristics of residential environments, but only when residential size drops to levels that allow fundamentally different types of resident care practices to emerge. More productive study of this may be achieved in moderately-sized environments in which interaction effects between size and important process variables are not "washed out" by the powerful main effects of extremely large size (Bloom, 1964).

Raynes and her colleagues (1979) also found relationships between staff perceptions regarding organizational characteristics of their units and care practices. More resident-oriented practices were observed on units where staff perceived a) more decentralization of decision making, b) less formalization of rules and regulations, and c) less specialization of role function (i.e., more administrative involvement with residents). Other findings regarding staff variables included negative relationships between tenure on the job and resident-oriented care practices as well as amount of informative speech of residents.

Taken together, the investigations described above suggest that the "monolithic" conceptualizations of residential institutions which characterized earlier scholarly (Goffman, 1961) and popular (Blatt & Kaplan, 1965) descriptions are greatly oversimplified. More careful analysis of these environments has revealed important differences among them which are associated

with differences in quality of life and developmental outcomes.

### Normalization and Residential Service Outcomes

Another line of comparative studies of residential environments has been pursued to assess the effects of a specific subset of environmental characteristics (those associated with the principle of normalization) on resident development. Two recent studies exemplify this research, both of which utilized PASS as the independent measure of environmental characteristics congruent with normalization principles.

Eyman et al. (1979) studied 245 clients with developmental disabilities who resided in 87 community based foster care and 11 board and homes. Client developmental gains were measured with the Adaptive Behavior Scale (ABS) (Mihira, Foster, Shellhaas, & Leland, 1969) annually across a three year period. Each residential environment also received PASS ratings during the three year period. The authors constructed a path model reflecting hypothesized relationships between input characteristics (client age, IQ, pre-scores on ABS), process variables (environmental characteristics as assessed by PASS), and a product variable (ABS annual change score). Results showed that the path model accounted for 40% of total variance on items comprising a Personal-Self-Sufficiency domain on the ABS, 39% of variance on a community Self-Sufficiency domain, and 54% of variance on a Personal-Social Responsibility domain. Significant path correlations for PASS ratings on four environmental factors

(administrative policies, environmental blending of facility with the neighborhood, location and proximity of services, and comfort and appearance) indicated that the normalization factors did contribute substantially to client growth.

Similar findings were reported by Hull and Thompson (1980). These researchers used a multiple regression approach to assess the relative contribution of personal and environmental variables on the instrumental functioning of retarded residents of community based board and care homes and staffed small group homes. Developmental growth was assessed for 369 clients on the scales from the APS and on the Adaptive Functioning Index (AFI) (Marlett, 1971). Residential environments were rated on PASS, as well as other characteristics such as size, staff attitudes, number of disability groups served, and others. Results of regression analyses indicated that, although personal characteristics (IQ, problem behavior, resident satisfaction) accounted for the most variance of any single factor, environmental variables were consistently important also. For example, on the Personal Routines domain of the AFI (which measured independence and self-sufficiency), the PASS rating for "activities promoting social integration" was the largest single factor identified (accounting for 44% of observed variance). This investigation substantiates the findings of Eyman et al. (1979) and Butler and Bjaanes (1977) indicating that normalized residential service practices may, in fact, have positive effects on resident growth and quality of life.

### Comparing Administrative Settings

A large body of research has been generated in an attempt to bring empirical evidence to bear on acrimoniously contested issues related to the deinstitutionalization movement. The purpose of this research has been to assess the extent to which certain environmental characteristics and related client outcomes are predicted by specific administratively defined types of residential programs: institutions, intermediate nursing care facilities, foster homes, small group homes, independent living arrangements, and others. Given the large intra-class variation in the actual characteristics of administratively defined program categories which has already been noted (e.g., McCormick et al., 1975) the policy implications of finding any predictable differences among them would relate to identifying those types of programs most likely to reflect desirable environmental characteristics and produce best client outcomes. Choices regarding individual residential placement options, in contrast, would best be made on the basis of observed characteristics of specific programs available.

An early attempt to discover differences that might exist between types of residential programs was reported by Bjaanes and Butler (1974). They compared a small sample (N=2) of community based board and care homes to foster home care programs (N=2). The number of residents in the board and care homes was 30 and 50 respectively. The two foster home care programs served four and six clients each. The authors collected direct observational



data on client behavior as well as interview and questionnaire data on physical characteristics of the environment and caretaker supportiveness in assisting clients to manage personal affairs. Although there was much overlap, results indicated some differences between the two types of programs studied. Board and care facilities were associated with more independent client behavior, and more contact with the community. The authors noted that clients in board and care homes demonstrated more social competence, and suggested that this might be related to greater opportunities inherent their proximity to the community. It was concluded that the board and care type of facility more closely approximated the goals of normalization than did the foster home care programs. Although the Bjaanes and Butler study demonstrated the type of environmentally oriented programatic comparison which would provide much needed empirical data, the extremely small sample size and lack of control for impact of differing client characteristics greatly restrict generalizations to be drawn from their findings. Given the large variance in a number of important characteristics of both types of programs studied, the authors' environmental criteria for "approximating the goals of normalization" would have been more meaningful if they had utilized a more explicit system of weighting various programmatic characteristics, such as PASS.

Another attempt to compare types of programs was reported by Eyman, Silverstein, McLain, and Miller (1977). They investigated developmental changes on resident Adaptive Behavior Scale scores

associated with specific types of residential settings. Environmental variation among residential programs was measured by Jackson's (1969) CTE, the Resident Management Survey, and a measure of special treatment programs (behavior modification or sensori-motor training) in effect for residents. Results showed that environmental variation accounted for more outcome variance than either of the treatment programs and that this relationship was most evident in community-based programs. Client developmental gains were more consistently observed in community programs, although superior gains were observed for some types of clients in institutions also.

A much larger investigation of differences between types of programs was recently conducted by Rotegard, Hill and Bruininks (1983). This study involved 2271 residents of 236 community-based residential facilities (CRF) and public residential facilities (PRF), that is, state institutional settings, for clients with mental retardation. The authors conducted extensive staff interviews to determine 1) the characteristics of residents and their individual programs, 2) the characteristics of the treatment environment (Jackson's CTE), and the characteristics of the physical environment related to normalization principles. Results of this survey indicated that CRFs consistently had more homelike environments than PRFs. Additionally, although both types of facilities were rated as having predominantly "positive" treatment environments, CRFs were rated significantly higher on this dimension. Size was

significantly related to how "homelike" CRF environments were rated, and even the largest CRFs (which had over 60 residents) were rated as more homelike than the average PRF. Although Rotegard et al. found consistent effects for facility type (community-based vs. state institution) on the measure of physical characteristics (how "homelike" environments were), results for social-psychological characteristics of the programs (the CTE measure) were relatively independent of the physical characteristics (Pearson's  $r$  for CRFs = .29, for PRFs = .22). Thus, the relationship between more normalized physical settings and social-psychological aspects of environments remains undefined.

Additional research which compared various types of residential programs in terms of both environmental characteristics and client outcomes was carried out recently by Seltzer (1981). Noting the need for a measure of client performance that was not confounded by IQ, the author utilized the Community Adjustment Scale (CAS: Seltzer & Seltzer, 1976) to assess mastery of community living skills as well as independent performance of these skills. The CAS also measures characteristics of the residential environment, including a) in-house responsibilities, b) autonomy, c) access to resources, d) staff expectations, and e) training provided. Residential programs for 153 deinstitutionalized clients were compared by administrative setting type: institution, foster home, natural family care, group home, semi-independent, and independent living

arrangements. Results showed consistent differences among these programs on several measured environmental factors. Institutions were generally lowest, while group homes and semi-independent and independent living arrangements were highest on in-house responsibility, autonomy, resources, expectations, and training factors. Multiple regression analysis of client characteristics and environmental factors indicated that both contributed to the community adjustment outcomes (CAS), with the training factor accounting for most variance. Interview measures of resident satisfaction were correlated with measured aspects of the environment; for example, residents were more satisfied with the autonomy-related aspects of programs that were rated high on autonomy. Resident satisfaction with social relationships was not related to program type.

Comparative studies involving analysis of residential environments for clients with mental retardation have generated several important findings. First, it appears that organizational aspects of residential programs may affect process variables (e.g. staff-resident verbal interaction and other resident care practices) which in turn may affect client outcomes and quality of life (McCormick et al., 1975; Raynes et al., 1979; Tizard et al. 1972). Second, several comparative studies suggest that the principles of normalization in human services design, long criticized for their nonempirical derivation, may in fact be associated with superior developmental outcomes (Eyman et al., 1979; Hull & Thompson, 1980; Seltzer, 1981). Finally, several

studies suggest that important differences may exist between types of programs, that is, institutions, intermediate care facilities, group homes, and independent living arrangements. It should be noted that in residential programs, as opposed to educational settings, administrative definitions of program type are usually confounded with large differences in size (often over a factor of 10).

This research strongly supports the viability of existing methodologies for identifying characteristics of special educational environments which represent important relationships with student outcomes. Further, several of the variables noted above appear relevant to identifying aspects of educational environments which may aggregate to define "least restrictiveness" for children with handicaps.

### Intervention Studies

Attempts to assess the effects of planned changes in environmental variables on resident behavior have been pursued by some researchers. For example, Levy and McLeod (1977) attempted to improve adaptive behavior of severely retarded adolescents in an institutional setting. The initial environment consisted of a typical large dayhall, 32 by 45 feet. All the walls and floors were tiled. Furniture consisted of plastic chairs, three tables, and a few toys. The intervention entailed rearrangement of this environment and augmentation of available furniture and materials. The dayhall was divided in half, with one half

retained as a large group area. A large play pyramid was constructed and two craft tables added to the room. In the other half of the hall a series of modular "learning booths" were constructed, each with a special activity in it. Client behavior was observed before and after these changes were made. A 10 category observational system was used which include neutral behavior, stereotyped behavior, appropriate play, social play, aggressive behavior, and others. Post-intervention data indicated reductions in stereotyped behavior and increases in most socially acceptable behaviors. Although these results are encouraging, the authors observed client behavior for only 15 days following intervention. The durability of observed behavior changes is, of course, a crucial issue.

An intervention report by Hemming et al. (1981) described changes in process variables (e.g., staff care practices) as well as outcomes associated with the movement of severely retarded clients to small residential units in a British institution. The small units consisted of bungalows on the institution grounds, each housing eight residents in an atmosphere "as homelike as possible." Pre-post changes were monitored for 51 experimental subjects on measures of care practices (using the King and Raynes' Management Practices Scale), client behavior, and characteristics of the daily routine. A group of matched subjects who were not moved from the larger institutional setting served as a control group. Results of post-tests at 18 months and three years after transfer indicated that the experimental

units had consistently more resident-oriented care practices than controls. Changes in client daily routines indicated that the experimental units were associated with fewer daytime occupations off the unit, but had more involvement in domestic activities. The experimental group residents showed improvement on Adaptive Behavior Scale scores at a nine month follow-up assessment, although a few clients demonstrated regression. The data suggested that the largest gains in adaptive behavior were made by residents from the most "restricted" wards, that is, those whose performance apparently had been depressed by environmental factors. These results are consistent with Zigler's findings related to the interaction between previous social history and changes in resident behavior in new residential settings (see Zigler & Balla, 1976 for a review).

#### Summary: Analysis of Residential Environments

Overall, the research literature on residential environments has provided several findings of relevance to the analysis of special education classroom settings. First, it is apparent that the general methodological approach to analyzing social environments described earlier (i.e., both observational and questionnaire techniques) may be useful in studying settings serving populations with mental retardation and other developmental disabilities.

Second, it appears that significant effects with these populations may be due to more "macro" level environmental



variables than have traditionally been the focus of special education research. For example, the finding of Eyman et al. (1977), that more variance in client outcomes was accounted for by environmental variables than by either of two popular training programs, is consistent with the proposition that much of the existing research in education and special education has been directed at instructional-level factors which make relatively little difference in general outcomes (Bloom, 1964).

Third, as outlined above, research on residential environments has suggested a number of specific characteristics of social environments which may affect developmental outcomes. These may merit investigation in educational settings as well.

### Analysis of Educational Environments

The body of research literature related to the analysis of educational environments reviewed here is organized around the same basic questions as previous sections. Thus, the focus is on three interrelated problems. First, researchers have recognized the need to describe aspects of the classroom environment likely to affect student outcomes. Second, efforts have been made to organize descriptive data toward development of classifications of classroom environments (e.g., Hoos, 1978). Third, the analysis of educational environments has been pursued in order to compare and contrast characteristics of various learning environments. Examples of research illustrating the analysis of classroom environments for each of these purposes are presented

below.

### Description of Classroom Environments

An early effort to construct a tool for describing aspects of classroom environments was reported by Stern (1961), who developed the High School Characteristics Index (described previously) to measure environmental press characteristics of secondary school settings. Later, Walberg and Anderson (Anderson & Walberg, 1968a; Walberg & Anderson, 1968) developed the Learning Environment Inventory (LEI) in the context of a curriculum development and evaluation study in secondary schools - The Harvard Project Physics. This instrument describes classroom environments in terms of 15 scales measuring dimensions such as cohesiveness, function, goal direction, cliqueness, and competitiveness. Each scale consists of seven statements which students rate on a four point Likert-type scale of agreement-disagreement. A simpler version of the LEI, the My Class Inventory (Anderson, 1973) has been constructed for use with elementary-aged students.

Another instrument developed to describe classroom environments is the Classroom Activities Questionnaire (CAQ) (Steele, House, & Kerns, 1971). The CAQ measures the distribution of classroom activities across the dimensions of Bloom's (1956) taxonomy in addition to affective dimensions such as enthusiasm, humor, and stress.

Moos and Trickett (1974) have developed an instrument for

describing classroom environments, the Classroom Environments Scale (CES), based on the Murray Needs-Press theory. Items were generated from observation, interview, and related theoretical and empirical research, and then subjected to psychometric analysis before final inclusion in the tool. Nine subscales are included which measure psycho-social aspects of the environment such as involvement, affiliation, competition, and teacher control. Based on work across a number of social settings (see Moos, 1974, 1979b for comprehensive reviews) Moos has identified three underlying dimensions along which even very different environments may be characterized. Relationship dimensions reflect the quality and quantity of interpersonal interaction, involvement, and support among participants in a social setting. Personal growth dimensions reflect the extent to which achievement of personal goals, academic accomplishment, and competition are characteristic of the social environment. System maintenance and change dimensions are related to environmental characteristics of orderliness, teacher-control, organization, rule clarity, and innovation (which refers here to both teacher and student designed variations in classroom activities).

#### Classifications of Educational Environments

A number of investigations have been carried out which have sought to classify educational environments according to types of social emotional climate. In an early report, Halpin and Croft (1963) attempted to classify 71 elementary school environments

sampled from six regions in the United States. They developed the Organizational Climate Description Questionnaire, which was a self-report measure completed by teachers and administrators (N=1151). This instrument consisted of 64 items arranged on six point Likert-type scales. Factor analysis of these data indicated that the social environments of the schools studied could be arranged along a scale ranging from "open" to "closed" types of organizational climates based on combinations of reported teacher and principal behavior. The six types of environments identified were: 1) open, 2) autonomous, 3) controlled, 4) familiar, 5) paternal, and 6) closed.

In another attempt to classify classroom environments Moos (1978) analyzed a representative sample of 200 junior high and high school level classes drawn from across the United States. Using cluster analysis of CES scores, the author was able to classify 196 of the 200 classrooms into one of nine types of classroom social-psychological environments. The conceptual similarity of several of the clusters resulted in reduction to six clusters of classroom environments: innovation-oriented, structured relationship-oriented, supportive task-oriented, supportive competition-oriented, unstructured competition-oriented, and control-oriented.

Moos (1979a) described these clusters both in terms of relative scores on subscales of the CES, and in terms of how performance on the subscales aggregated into the relationship, personal growth, and system maintenance dimensions.

Innovation-oriented classrooms reflected high scores on the innovation subscale of the CES, and an above-average emphasis on all three scales related to relationship dimensions. These characteristics were contrasted with relatively less emphasis on organization, procedural clarity, and teacher control. Structured relationship-oriented classrooms were characterized by emphasis on student interaction, participation, and teacher support. Concomitant emphasis was evident on organizational aspects of the environment in these classrooms. Supportive task-oriented classrooms were typified by relatively high scores on teacher support and task orientation subscales as well as the order and organization indices of the CES. Relatively little emphasis on student interaction and teacher control is found in these classrooms. Supportive competition-oriented classrooms emphasize both relationship and personal development dimensions of the social environment. This cluster is reflected by higher scores on task orientation, competition, organization, and rule clarity subscales. It is also characterized by high scores on involvement, affiliation, and teacher support. The fifth cluster of classroom environments was termed unstructured competition-oriented. These classrooms were characterized by high emphasis on task orientation and competition, with relatively low scores on the relationship and the system maintenance and change dimensions. The final type of classroom environment identified was termed control-oriented. This cluster of classrooms were characterized by a high emphasis on

teacher control and relatively low emphasis on anything else except competition (rated about average). These classrooms were rated as low in teacher support, student involvement, and supportive student relationships. This cluster constituted the most frequently occurring type of classroom environment identified, comprising over 23 percent of the classrooms sampled. Moos (1979a) notes that these classrooms appear to emphasize teacher control of student behavior to the exclusion of other aspects of learning environment, and may thus constitute a high priority population for further investigation and change.

In addition to delineating the main effects for specific types of environments, Moos (1979b) has noted the relevance of studying typologies of classroom environments as a means of identifying contextual factors which may interact with specific intervention programs. This suggests that the replicability of specific programs may be affected by aspects of the social-psychological environment which are not usually assessed. For example, although programs emphasizing student competition may have negative social side-effects in some types of classroom environments (Johnson & Johnson, 1975), the same competitive goal arrangements may be perceived more positively in environments characterized by a concomitant emphasis on positive teacher-student and student-student relationships. Compare, for example, the supportive competition and unstructured competition oriented classrooms described above.

### Comparisons of Educational Environments

The third general purpose toward which an analysis of educational environments has been pursued consists of the comparison and contrast of various environmental types and related effects (Moos, 1976; 1979; Walberg, 1979). Several examples of this type of research are described below.

Anderson, Walberg, and Welch (1969) conducted an investigation of curriculum effects of the Harvard Project Physics on 150 high school physics classes. Comparing the Harvard Project curriculum to traditional approaches, they found that the experimental curriculum was perceived as less difficult, more interesting, and was associated with less friction and cliques among students. Other research directed toward comparing effects of various curricula was reported by Anderson (1971). He studied the effects of various high school curricula (science, languages, literature, mathematics, etc.) and teacher sex on classroom social climate as measured by the LEI. Anderson found a number of differences between the types of classes. For example, mathematics classes reflected more friction, favoritism, difficulty, and disorganization. Science classes were rated as more formal, more organized, and as having less cliquishness, friction, and favoritism. French classes were characterized as low in friction and disorganization, and relatively high in pacing, formality, and goal-directedness. Finally, English and history classes were typically rated as easier and slower paced than the others. No main effects for teacher sex or interactions



between teacher sex and classroom curriculum were found.

Additional comparative studies were carried out by Walberg, House, and Steele (1973) and Walberg, Steele, and House (1974). In the first investigation, the relationships of grade level to the dimensions of classroom environment measured by the CAQ were assessed. Based on data collected in 121 classrooms from grades six through twelve, including math, science, social studies, and language arts classes, the authors found that high school students perceived their classroom environments less positively than did younger students. While elementary students perceived their classes as emphasizing higher level cognitive skills (synthesis and application), high school students felt their work focused on memorization and repetition.

Further analyzing these data, the authors also discovered differences between the classroom environments associated with curriculum (Walberg, Steele, & House, 1974). Specifically, they found that language arts classes emphasized higher cognitive processes such as evaluation, synthesis, and interpretation, and were characterized by affective traits of student independence and participation. In contrast, mathematics classes were characterized as emphasizing cognitive skills such as memory and analysis. These classes were rated as high in grade related stress, and relatively low on humor and discussion. Additional differences between types of classes were described in terms of emphasis on "syntax" (language arts and mathematics classes) versus "substance" (social studies and science classes) and in

terms of objectivity (science classes) versus subjectivity (social studies).

In a study of longitudinal changes in learning environments, Welch (1979) assessed differences in classroom environments associated with subject matter and with grade level. Using a stratified random sample of secondary schools from 15 Western states, Welch obtained student responses to ten scales of the LEI for 1121 classrooms. Repeated measures were conducted in 1972 and 1976, with results indicating significant differences for comparisons by year, subject matter, and grade level. Changes across the four year period reflected shifts toward a more orderly, structured environment, with increased student satisfaction. Differences for grade level contradicted the earlier findings of Walberg et al. (1973) in that senior high school students rated their classrooms more positively than did junior high school students. Welch found science classes to be characterized as having more diversity, disorganization, formality, cliquishness, friction, and favoritism. In contrast, mathematics classes were seen as higher in goal direction, difficulty, and democracy. Welch (1979) noted that only two of these findings (formality and difficulty) were consistent with earlier research by Anderson (1971). This, of course, raises issues regarding the replicability of findings obtained with the LEI, even when relatively large samples were employed.

#### Summary of Research on Regular Education Environments

The foregoing body of research may be summarized in terms of its implications for analysis of environments related to the LRE concept. First, it is apparent that several measurement instruments have been developed which might be useful in assessing important characteristics of classrooms serving handicapped children. Second, reduction of the multitude of environmental variables potentially affecting outcomes to conceptually and empirically manageable dimensions seems critical if a usable technology for analysis of classroom environments is to be achieved. Moos' model, emphasizing relationship, personal growth, and system maintenance and change dimensions may be useful in this connection, particularly since these dimensions appear meaningful across divergent social settings (Moos, 1976; 1979a). Third, it appears that models for analyzing classroom environments must be "wholistic," in the sense that interactions between specific environmental characteristics and other contextual factors (particularly teacher and child characteristics) will likely allow more accurate prediction of outcomes than simple main effect models. For example, effects often cited related to classroom reward structure (Johnson & Johnson, 1980; Slavin, 1980) appear to be differentially affected by other social climate variables (Moos, 1979a). Finally, it appears that there may be important relationships between curriculum content and classroom social climate which merit consideration relative to the type of classes that may be "least restrictive" for specific learners.

## Research in Special Education Environments

### Project PRIME

By far the most ambitious attempt to conduct a thorough analysis of special education classroom environments is represented by Project PRIME (Kaufman, Agard, & Semmel, 1978). This major federally sponsored project was unique in the scope of its underlying conceptualization and in the extensiveness of the data collected.

Central to the design of the PRIME investigation was an explicit model for considering child plus environment interaction effects within special education settings. This was developed through conceptualization of a taxonomic model based on relevant theoretical and empirical research which identified likely sources of variance for child outcomes related to both child and setting characteristics. Project PRIME represented an attempt to derive empirical weightings for these variables within a regression model toward predicting child competence.

Although the model represents a detailed consideration of child characteristics which clearly relate to outcomes, our attention will be devoted to the most unique aspect of the project - its conceptualization of effects due to environment. These are parsed into three types. First, participant composition of the classroom was considered important. Thus, peer characteristics such as school attitudes, intellectual

performance, social-ethnographic background, and others were assessed. Teacher characteristics were also viewed as important, including training and experience, attitudes toward mainstreaming, attitudes toward educational issues, socio-ethnographic background, and others.

The second category of environmental characteristics identified in PRIME was socio-emotional climate. Related variables were designated as teacher leadership style and peer cohesiveness. Peer cohesiveness characteristics were related on the degree of peer harmony and liking or disliking patterns observed in the classroom. Teacher leadership style was a composite of the teacher's techniques of influence, warmth, and amount of directiveness.

The third type of environmental variables hypothesized to affect learner outcomes was termed instructional conditions. These included contextual conditions such as the physical setting, curricular content, and special instructional materials used, and also behavior dimensions such as teacher strategies, peer instructional activity, cognitive discourse in the classroom teacher feedback, and others.

### Project PRIME Results

Descriptive results. For participant composition variables, a number of descriptive findings were obtained which have implications for the LRE concept. First, there was substantial variation in the extent to which special resources such as aide

time, materials support, and in-service training were available to teachers. There was a clear need for increased support of this type in most mainstream classrooms. Second, it was found that EMR children were often mainstreamed into classes with a predominance of nonhandicapped peers who were "low achievers." This, of course, raises issues regarding the effects of this practice on both social learning outcomes and peer acceptance. A third descriptive finding was that older, more experienced teachers were less likely to have positive attitudes toward mainstreaming, as were teachers with highly structured classrooms.

With respect to variables subsumed under the instructional conditions category, several dimensions were of particular importance. Measures of peer interest and attention as well as peer verbal participation were related to instructional engagement. This meant that higher levels of attention were likely to be obtained in large self-directed group activities. Lower levels of engagement were found for teacher-led small groups where, however, individualization of instruction was high. The authors noted that these findings suggest that teachers may often face a dilemma, wherein one instructional format (i.e., large group) may be efficient for one set of instructional goals (i.e., engagement), while another format may be more effective for achieving other equally important goals (i.e., individualization). More flexibility in instructional formats was observed in special classes than in regular classes or

resource rooms.

Consistent with arguments raised earlier in the present paper, descriptive findings related to social-emotional climate indicated large within group differences existed for regular, resource, and special class settings. Other findings indicated that most teachers in both regular and special education classrooms could be characterized as "warm." Most regular class teachers were not highly directive, but neither were special class teachers. An important finding was that inclusion of handicapped learners in regular classrooms was not associated with increased group friction or increased behavior management time.

Outcome results. Outcome results related to environmental variables were summarized in terms of academic and social competence. Academic outcomes were substantially affected by environmental variables for all groups, but these effects were stronger for handicapped than nonhandicapped learners. Participant composition factors appeared most important in predicting academic outcomes, with teacher characteristics accounting for the largest proportion of variance. Specifically, results indicated that teachers who had positive attitudes toward mainstreaming, and Black teachers were associated with positive academic outcomes for handicapped learners. Instructional conditions were related to academic status and academic behavior outcomes, but not to academic attitudes. Specifically, small group instruction formats were associated with lower academic



status outcomes for EMR learners. This finding is important given that instructional differentiation (i.e., individualization) has been generally assumed to have positive effects on learning outcomes. Socio-emotional climate variables were associated only with academic behaviors - specifically attention to task.

Social competence outcomes were more powerfully related to environmental factors than learner characteristics. Participant composition variables affected both acceptance and social behavior outcomes. Particularly, teacher attitudes toward education, peer attitudes toward school, and percentage of peers with reading problems predicted higher social acceptance for EMR children in regular classes. Additionally, higher acceptance of EMR children was found in urban schools and in classrooms with high percentages of nonAnglo students. Antisocial behavior was associated with classrooms with Anglo, highly verbal teachers, and inexperienced teachers.

Findings for other environmental variables were also important. Instructional conditions associated with differential outcomes included teacher directiveness and grouping strategies. Specifically, high teacher directiveness was associated with relatively less variance in social behavior (both positive and negative behaviors). Large group instruction was associated with more acceptance and less rejection of EMR children.

The clearest findings related to social outcomes were obtained on socio-emotional climate variables. Here it was found

that the cohesiveness of the classroom social environment was consistently associated with higher levels of peer acceptance. Specifically, peer harmony was related to positive social outcomes for all groups, while peer "disliking" was negatively related to these outcomes. Disliking was also related to higher levels of antisocial behavior. These findings were relatively consistent across groups.

## GOAL STRUCTURING

Cooperative goal structuring has been utilized to cope with the two primary problems associated with mainstreaming: a) increased academic diversity, and b) social rejection of handicapped students (Goodman, Gottlieb, & Harrison, 1971; Gottlieb & Budoff, 1973; Johnson, 1950). Its potential as a within setting variable, therefore, lies in its effect on both social and academic outcomes. In this paper 1) cooperative goal structuring is defined, 2) several models that have been used in cooperative goal structuring are presented, 3) the literature related to outcomes for nonhandicapped learners is reviewed, and 4) the literature related to the use of cooperative goal structuring with handicapped learners is reviewed.

### Definitions

The goal structure in a classroom determines how the students interact, and how they are rewarded for their efforts. Goal structures can be cooperative, competitive or individualistic. In a cooperatively structured situation students work jointly towards a common goal. No child can meet the goal if the others in the group do not also achieve it. There is an interdependency among the group members. In a competitively structured situation the students are in opposition. One student can reach a goal only if the other students do not. Rewards are limited. In an individualistically structured situation goals are achieved independently. Students

do not work together to reach a goal nor do they compete with each other for the available rewards (Johnson & Johnson, 1975).

### The Models

There are three major models that have used cooperative goal structuring in educational settings: Jigsaw, Teams-Games-Tournaments (and Student Teams-Achievement Division, a variation) and Small-Group Teaching.

Jigsaw. Jigsaw was developed by Aronson and his colleagues (Aronson, Bridgemen, & Geffner, 1978). In Jigsaw students are divided into groups of five to six members. Each child in the group is given one section of the group lesson to teach to the other members of the group. The group task is highly interdependent because no member has access to all information without the efforts of the entire group. The rewards in Jigsaw are individually given and based on individual performance, however no individual can perform well without prior group effort. Aronson et al. (1978) describe the outcomes of Jigsaw in terms of social and academic benefits. They indicate that cooperative learning builds self-confidence and self-esteem in learners and contributes to increased liking and better relations among group members. Academically, students learn to rely on other students rather than the teacher alone as a source of information. While Jigsaw has not been implemented with handicapped children in the classroom, Aronson et al. describe provisions within their model to incorporate "poor readers." They suggest that the poor readers will use others in their class

as models and benefit because they "can see ways more articulate students formulate their thoughts and ideas" (p. 19). It seems clear, however, that unless the portion of the lesson given to a handicapped student is carefully designed, that student may not be seen as making an equal contribution to the group information.

Teams-Game-Tournaments. Teams-Games-Tournaments (TGT) is a model developed by Slavin (1980) and his associates. The cooperative element of TGT lies in the teams aspect which prepares the members to do well in the tournament. TGT consists of an initial presentation by the teacher. Then teams, which consist of students at different ability levels, form to study together and quiz each other on academic material. Once or twice a week the students are grouped with others at a similar ability level for the tournaments. Scores at the tournaments are added to the team score which is then reported to the class. Student Teams Achievement Division (STAD) is a variation of TGT developed by Slavin (1980). The heterogeneous teams remain in STAD but the games and tournaments are replaced by quizzes that the students take after studying with their teams. The students receive points for their team based on competition within a division of six students that are at a comparable ability level. The students are not in face-to-face competition, but results are reported to the class. STAD has been used in classrooms with handicapped and nonhandicapped students (Madden & Slavin, 1983). Slavin (1980) indicates that achievement is enhanced for both

groups of students; that fewer handicapped students are rejected by their nonhandicapped peers; and that self-esteem is enhanced for all students. Both STAD and TGT are used to increase low level, basic skills in the areas of arithmetic, language arts, and reading. Slavin (1980) attributes favorable results to both the highly structured system of instruction and the team aspect of the tasks and the rewards.

The Small-Group Teaching Model. The Small-Group teaching model has been developed by Sharan (1980) and Johnson and Johnson (1975). Sharan describes both models as consisting of data gathering by students, the use of group discussion to interpret the information, and the compilation of each individual's contribution into a group product. Sharan and his colleagues have not applied their technique in mainstream settings, however, Johnson and Johnson and their colleagues have used their methods with severely handicapped students in a bowling program (Johnson, Rynders, Johnson, Schmidt & Haider, 1979), in a summer swimming program (Martino & Johnson, 1979), and in the classroom with mildly handicapped students (Cooper, Johnson, Johnson & Wilderson, 1980).

#### Academic Outcomes for Nonhandicapped Learners

The effect of cooperative goal structuring on academic outcomes in language arts, mathematics and social studies has been investigated using standardized measures (Slavin & Karweit, 1981) and criterion-referenced measures (Johnson, Johnson, Johnson & Anderson, 1976; Johnson, Johnson & Scott, 1978; Lucker,

Rosenfield, Sikes & Aronson, 1977; Wheeler & Ryan, 1973). Language arts learning was facilitated by cooperative goal structuring while outcomes in the areas of mathematics and social studies either showed no effect from the goal structure chosen (Slavin & Karweit, 1981; Wheeler & Ryan, 1973) or superior outcomes for the individualized goal structures (Johnson et al., 1978).

Slavin (1980) suggests that differences in results may be due to the subject matter covered, the level of skill required, and the differences in the uses of team structure. The uniformly poor results for social studies achievement may be due to the lack of overlap between what was taught and what was tested. Slavin also postulates that differences between results for the STAD/TGT studies and the small group instruction studies relate in part to the different skill levels required. The TGT/STAD instruction is based on rehearsal of basic, low level skills and the teams are used for their motivational value. Slavin indicates that the method designed by Johnson and Johnson is more effective with higher level skills, and uses the team as a facilitative device which leads to brainstorming, sharing ideas and solving problems. There is no specific individual responsibility within the group because a group product is produced, and this group product may be produced by the students in the group who are functioning at higher levels. The lack of individual responsibility may explain the results obtained by Johnson et al. (1976) and Johnson et al. (1978). In these



studies there were no differences in achievement results for individuals in either goal structure, but the cooperative group had superior results for efforts that were measured for the group as a whole.

#### Social Outcomes for Nonhandicapped Learners

There is more conclusive evidence for a relationship between cooperative goal structure and positive social outcomes. Group cohesiveness is enhanced with cooperative goal structures because there is greater contact between group members (Slavin, 1980) and because the "positive value attached to another person's efforts to help one achieve one's goals becomes generalized to that person" (Johnson & Johnson, 1980, p. 94). Additionally there are positive social outcomes related to an individual's self-confidence, self-esteem (Ames, Ames & Felker, 1977; Aronson et al., 1978) and positive behavior (Stendler, Damrin & Haines, 1951).

The social climate of children's groups was examined under cooperative and competitive conditions by Stendler et al., (1951). The authors observed the positive and negative behavior of second grade children while painting a mural first under a cooperative, then a competitive condition. The children's behavior was also observed in a subsequent free play session. While there was more positive behavior than negative under the group reward condition, this difference was not reflected in the free play situation which followed.

The authors noted that there was a difference in attention

to task in the two conditions. In the competitive structure those children who felt that they had a chance to get rewarded continued to remain on task, however, in the cooperative structure there was a greater likelihood for all children to remain on task. While children boasted about their work under both conditions, they showed little depreciation of their work under either condition. The boasting may be due to the age of the students participating in the study. Johnson and Johnson (1975) suggest that one cognitive prerequisite necessary to benefit from cooperative situations is that the child must "understand what implications the goal structure has for one's own and the others' behavior" (p. 185). Second grade students may not understand that in order to share a group reward it is important to subsume an individual's contribution to the contribution of the group.

Older children were used to examine self-reward and affective responses under competitive and cooperative situations by Ames et al. (1977). Fifth grade students were assigned to a success-failure outcome and a competitive or non-competitive reward structure and then were asked to attribute their performance to their ability, effort, luck or the task's difficulty. The authors found that failure in a competitive situation elicited negative affect and self-punitive responses from the students who failed. Those students who succeeded in the competitive situation felt that they deserved the reward more than those in the noncompetitive condition.

The Jigsaw model was used to assess the attitudes toward school, cooperation, self- and peer-teaching of Anglo-American, Black and Mexican-American fifth grade students (Blaney, Stephen, Rosenfield, Aronson, & Sikes, 1977, as cited in Aronson et al., 1978). While self-esteem and liking as measured by a sociometric instrument increased for the group that used cooperative learning, the attitude toward school did not show similar improvement. Anglo-American students increased their liking for school, but Black students decreased their liking. Mexican-American students in the control group increased their liking for school, but the experimental group increased their liking only slightly. The authors attribute this result to the language deficits of the Mexican-American students. Because the structure of Jigsaw requires the participation of each student, students with language difficulties may not have been able to participate on an equal basis. Since handicapped children often have language difficulties, Jigsaw may not be a model which would allow them to participate equally with other group members. The study by Lucker et al., (1977) using Jigsaw, however, demonstrates that the academic achievement of minority students improves using Jigsaw.

Cooperative goal structuring produced more positive attitudes than individualized instruction in both language arts (Johnson et al., 1976) and mathematics instruction (Johnson et al., 1978). In the first study fifth grade students in the cooperative condition exhibited more altruism and had more

accurate recognition of feelings. They also felt that teachers liked them more, peers liked them more, and that peers helped them to learn more. More children in the cooperative group than in the individual group liked studying. Observations from the teacher indicated that the cooperative group had less difficulty following directions, had fewer problems understanding the assignment and spent less time waiting for the teacher's help. The teachers also noted, however, that the students initially lacked the skills for working together. Cooperative learning in the second study was also facilitative for student attitudes. The students in the cooperative structure had more positive attitudes toward heterogeneity; they felt they were doing a better job of learning in school; they had more positive feelings toward their teachers; and they also had a significant increase in their liking of fellow group members. While most outcome measures were positive, there were difficulties within the cooperative learning groups including domination by one member, a split between male and female members, competition, "goofing-off," and a lack of sharing and helping.

There is evidence for positive affective outcomes as well as positive achievement outcomes using the TGT/STAD model (Slavin & Karweit, 1981). Children in the experimental condition had a larger number of friends in school and a smaller number of classmates with whom they would prefer not to work. They also gained more in their liking of school and in their academic and general self-esteem. There were no differences between groups,

however, on their feelings of being liked, their liking of others and the extent to which they felt their academic performance was supported by peers.

Implications. While the evidence related to both the academic and social outcomes for cooperative goal structuring is essentially positive, there are limitations. One limitation concerns the necessity of cognitive prerequisites suggested by Johnson and Johnson (1975). These prerequisites include: an awareness of other individuals, the ability to identify and respond to the actions of those individuals, an awareness of the concept of goal interdependence and an understanding of the implications of goal structure for one's own and another's behavior. This necessary understanding comes between the ages of five and ten (Johnson & Johnson, 1975), however, it may occur later for handicapped children.

An additional limitation related to the use of cooperative goal structuring is the teacher training necessary to implement it. Johnson and Johnson indicated in one study that the teachers received 40 hours of intensive training to implement the goal structures (Cooper, Johnson, Johnson, & Wilderson, 1980). Other models require less extensive training, however. Slavin and Karweit (1981) used a three-hour training period to instruct teachers in the TGT model. While there is a difference in the amount of training needed, some is required to implement all of the models.

Finally, the observations made by teachers in the Johnson et

al., (1976) and Johnson et al., (1978) studies suggest that children need practice in learning how to work together in a group. Simply creating a cooperative structure does not mean that children will cooperate and teachers need the skills to deal with group process difficulties that arise. Additionally, because the small group instruction model presented by Johnson and Johnson culminates in the production of a group product, high ability students may be contributing more than their peers. This differentiation of response may be eliminated by assigning different roles to group members similar to those assigned in the study by Wheeler and Ryan (1973) including coordinator, analyzer and recorder.

#### Social Outcomes for Handicapped Learners

Because cooperative goal structuring contributes to academic and social outcomes for nonhandicapped children it is logical to assume that it would be effective in enhancing those competencies for handicapped learners as well. The studies that have used cooperative goal structures with handicapped learners have primarily explored its effect on social outcomes. Chennault (1967) attempted to improve the social acceptance of unpopular EMR students in special classes by having highly accepted students work with them to plan, rehearse and present a skit. The students in the experimental treatment improved significantly both in peer acceptance and in perceived peer acceptance. However, the author was unable to attribute the results to the cooperative aspect of the experience.

In a related study, Lilly (1971) attempted to isolate and manipulate each of the intervention variables suggested by Chennault (1967) to determine which variables contributed to the improvement of sociometric status. The conditions included: 1) the full impact treatment in which the children were removed from class and worked on a skit with popular students and the experimenter; 2) the experimenter impact treatment which was identical except a student leader was chosen to minimize the experimenter's effect; 3) a peer impact treatment which eliminated the effect of the popular children; 4) a minimal impact treatment which eliminated the increased salience of the experimental subjects; 5) a within class treatment in which the students were not removed from the class; and 6) the full control condition in which the students received no treatment. While the experimental treatments as a group produced gains in social acceptance there was no significant difference for any individual condition.

Ballard, Corman, Gottlieb and Kaufman (1977) extended research on use of cooperative learning activities to a mainstream setting. Because treatment gains had not been maintained in other intervention studies (Lilly, 1971; Rucker & Vincenzo, 197) they instituted a longer and more intensive intervention program. After the intervention, experimental students had significantly higher acceptance than control students, however, there was no difference in the rejection of the two groups. The authors concluded that acceptance and



rejection are separate constructs, because they were not affected equally by the intervention. Ballard et al. were unable to identify which aspect of the treatment was responsible for the gains in social acceptance of the experimental group. They suggested that the cooperative nature of the activity, the use of an activity with minimal academic demands, the high degree of structure, or the length of the treatment might have accounted for the gains.

Using different goal structures, cooperative, competitive and individualistic experiences were compared to determine their effect on the interpersonal attraction of heterogeneous peers (Cooper et al., 1980). In both the cooperative and competitive conditions, learning disabled children were chosen as friends more frequently than in the individualistic condition. It is interesting to note that handicapped children were chosen as friends in the competitive situation since Johnson and Johnson (1980) suggested that "negative goal interdependence promotes oppositional interaction and feelings of psychological rejection and threat" (pp. 92-93). Because children in the competitive condition worked within clusters of equal ability students and one student within the cluster was declared the winner, the learning disabled children chosen as friends may have been the winners within their cluster.

When only the cooperative and competitive conditions were compared, Johnson and Johnson (1982) found that the cooperative condition had a positive effect on interpersonal attraction.

There were significantly more interactions between handicapped and nonhandicapped children within the cooperative condition. In addition, students in the cooperative condition: liked each other more, liked their group product more, and were more cohesive.

Recreational activities have also been used to examine the interactions of handicapped and nonhandicapped children. Martino and Johnson (1979) used a summer swimming program to contrast the interaction of learning disabled and nonhandicapped children in cooperative and individualistic conditions. There were more friendly interactions after instruction in the cooperative condition. Although the difference in hostile interactions was not significant, there was a trend toward more hostile interactions in the individualistic condition. The generalizability of these results is limited by the small sample size ( $N=12$ ). In addition, the children in the individualistic condition were given directions not to pay attention to other members of the class during instruction. Although these instructions may be given during school, it is unusual to deliver these directions during a recreational activity and may have unduly affected the results of the study.

The interaction between nonhandicapped students and adolescents with Down's syndrome were examined in other studies using a recreational setting (Johnson et al., 1979). These studies examined the interaction between students using cooperative, competitive and individualistic goal structures

during bowling. The cooperative condition contributed to significantly more positive interactions than either the competitive or individualistic condition. Also, the nonhandicapped students rated their handicapped team members significantly higher in the cooperative condition than in the other conditions.

#### Academic Outcomes for Handicapped Learners

While there are a number of studies which examine the effect of cooperative goal structuring on social outcomes for handicapped children, there is less information on achievement outcomes. A study by Smith, Johnson and Johnson (1982) provides some evidence. This study compared individualistic and cooperative conditions on achievement for sixth grade students who were handicapped, gifted or normally achieving. Achievement was measured by scores on a test of 20 questions developed from study material. Retention was measured on the same 20 questions four weeks after the study. All students in the cooperative condition scored higher on both the achievement and retention measures. Although there was a significant effect for ability, the effect was stronger in the individualistic condition; in the cooperative condition the handicapped and nonhandicapped children achieved at approximately the same level.

Madden and Slavin (1983) used the STAD model with learning handicapped and nonhandicapped children randomly assigned to STAD groups or to control groups for mathematics instruction. For academic outcomes there was improvement in mathematics

achievement for the whole group of STAD children, but not for the subsample of learning handicapped children. Social outcomes were also measured. The authors found that while there was less rejection of learning handicapped children taught with the cooperative strategy, there was no difference in the number of friendships identified between handicapped and nonhandicapped pupils.

### Summary

For handicapped learners, cooperative models have been used primarily as interventions to improve social outcomes. Researchers have found a consistent relationship between cooperative goal structures and positive social outcomes. Identifying an educational environment in which there is cooperative goal structuring, therefore, has the potential for facilitating social outcomes for handicapped children.

The effects of cooperative goal structuring on academic outcomes for children with handicaps are not as evident. Most research which has examined the impact of cooperative models on outcomes for handicapped children has utilized the Small-Group Teaching Model (Johnson & Johnson, 1982). In this model there is an emphasis on higher cognitive tasks and each member of the group contributes ideas toward problem solving and producing a group product. If the handicapped student is functioning at a low cognitive level, she may not be able to contribute ideas toward the group goal. In addition, because the teacher training involved in implementing the Small Grouping Teaching Model is

extensive, teachers may be unwilling to utilize it.

The use of the TGT/STAD model seems particularly promising for improving the academic achievement of handicapped learners (Madden & Slavin, 1983). The model emphasizes basic skills: skills which may be limited in mainstreamed students. Additionally, the model encourages the rehearsal and practicing of information which produces high academically engaged time for the learner. An additional advantage for the TGT/STAD model is the limited training needed for teachers to implement the model.

## ACADEMIC LEARNING TIME

It is reasonable to assume a relationship between how teachers design the instructional environment and how students learn. One aspect of the environment which is under direct control of the teacher is time use. The importance of decisions related to time use as an aspect of the environment are considered in the following section.

### The Development of Academic Learning Time as a Dependent Variable

Allocated Time. The original research on allocation of instructional time examined the effect of large segments of time such as years of schooling (Hyman, Wright, & Reed, 1975), days of instruction (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966), and hours of classes (Fredrick, Walberg, & Rasher, 1979). While data was easily gathered, there was only a moderate relationship between the variables chosen and their effect on learning. As research in the area evolved, it became clear that "refining the validity of the measure of instructional time would increase its correlation with learning" (Walberg & Frederick, 1982).

A more refined measure of allocated time became the time assigned by the teacher for teaching a particular subject. Engaged time was conceptualized as a subset of allocated time, and the notion of academic learning time was a further refinement developed during the Beginning Teacher Evaluation Study (Sorg,

1980).

The Academic Learning Time Model. Academic Learning Time (ALT) is defined as "time spent by a student engaged in a task on which few errors are made and where the task is directly relevant to an academic outcome" (Borg, 1980, p. 41). The model suggests that there is a positive relationship between academic engagement at a high success rate and achievement gain; where engagement is defined as the amount of time the student spends directly on learning and high success rate is the situation in which the student shows a good understanding of the task and makes only a few careless errors (Borg, 1980).

The theories of Carroll (1963), Bloom (1976) and Wiley and Harnischfeger (1974) have contributed to the conceptualization of ALT.

Carroll's Model. Carroll's model was one of the earliest to use engaged time as a factor for prediction of cognitive learning in the classroom. According to his theory, five variables relate to student learning: 1) aptitude, or the amount of time a student requires to learn a given task, 2) ability to understand instruction, 3) perserverance, 4) opportunity to learn, and 5) quality of instruction. The first three are elements within the individual. The last two reflect external conditions. Carroll incorporates these variable into the following formula:

$$\text{degree of learning} = f \left( \frac{\text{time actually spent}}{\text{time needed}} \right)$$



Carroll notes that engaged time is not necessarily equal to allocated time or opportunity to learn. However, opportunity to learn and quality of instruction are the variables in his theory that lend themselves most readily to experimental manipulations, because they are factors external to the student. Quality of instruction, at best, is difficult to measure. Carroll suggests that opportunity to learn shows the most promise as a research area.

Bloom's Model. In Bloom's school learning model, three variables are proposed that affect achievement and on-task time: 1) cognitive entry behaviors, 2) affective entry characteristics, and 3) quality of instruction. Bloom attempts to develop a working definition of quality of instruction in which he includes cues as to what is to be learned, reinforcement, active participation in the learning situation, and feedback to provide the student with progress information. Participation, in Bloom's model, is virtually identical to engaged time. Bloom estimates that the quality of instruction variables, in combination, account for from 25 to 40 percent of the variance in student achievement (Bloom, 1976).

Bloom emphasizes that mastery of learned content cannot be achieved simply by allocating equal amounts of time to each pupil. Time and help need to be provided to slower students so that they can reach mastery criteria. There is research to suggest that 80 percent of the students can be brought to a learning criterion usually reached by only 20 percent if mastery

learning procedures are employed (Block, 1971; Peterson, 1972). This result can be achieved with a supplement of 10 to 20 percent additional time (see Borg, 1980). In a review of his own research on mastery learning, Bloom (1976) found that students who had learned a task to mastery were spending approximately 85 percent of their time on task, while those students who were given no extra help were spending only 50 percent of their time on task. Bloom conjectured that the mastery group was learning more effective learning techniques, while the regular group was decreasing in their effectiveness as learners.

Wiley and Harnischfeger's Model. The work of Wiley and Harnischfeger (1974) constitutes another major theoretical model pertaining to school learning. In this model, pupil achievement is reduced to two factors: the total time required by a student to learn the given information and the total time the student actually spends on the task. The impact of other factors such as quality of instruction, student background variables, and teacher characteristics is tempered through these two primary time-related variables. Included in this model are teacher behaviors which influence total active learning time for a given pupil. These behaviors are planning, implementation, inducing, and communication. Teacher characteristics, curriculum, and individual pupil characteristics are all seen as directly influencing the total allocated exposure time for the student. This affects the total usable exposure time, which affects the total active learning time. Total active learning time combined

with total needed learning time produces achievement.

In some current conceptualizations (Fisher, Berliner, Filby, Marliave, Cahen, & Dishaw, 1980) ALT, rather than standardized test scores, is characterized as the dependent variable of interest. Because different classrooms follow different curricula, and because there is different time allowed in a classroom for particular aspects of the curriculum, standardized achievement tests are not a sensitive measure across settings (Borg, 1980). ALT, as a dependent variable, is not affected by differences across classrooms. This interpretation is not uniformly accepted, however; most studies treat ALT as an independent variable.

In the following section the effect of academic learning time on achievement of nonhandicapped learners is examined.

#### The Effect of ALT on Academic Outcomes for Nonhandicapped Learners

While the current model of ALT has been refined to include engaged time, success rate and the relationship of the task to the desired academic outcome, early studies focused only on the relationship of time-on-task to achievement outcomes.

The relationship between attention and reading achievement for first grade boys and girls was examined by Samuels and Turnure (1974). Attention was determined by observing task relevant and non-task orienting behaviors. A reading recognition score was obtained based on scores on the Dolch list of basic sight words. Results indicated that greater attention was linked

to increased achievement.

Cobb (1972) observed a number of child behaviors during arithmetic, one of which was attention, and predicted scores on the Stanford Achievement Test using the behaviors. Attention scores contributed the most weight to the regression equation in both schools used.

In a variation on the time-on task studies, Bell and Davidson (1976) attempted to separate out the influence of ability from the influence of attention on outcome measures. When the effects of intelligence were partialled out, there was a significant relationship between on-task behavior and achievement in only 3 of the 23 elementary classes observed. In those three classes the authors were able to identify only one behavior that discriminated those teachers from the others: introducing the lesson. Additionally, those three teachers did not repeat or reword their own questions. The other 23 behaviors measured did not discriminate among the teachers.

Lanaderne (1968) also partialled out the effect of IQ and examined the relationship of observed attentive behavior to attitudes toward teacher and school and to achievement test results. While she found little correlation between attention and attitudes she did find significant effects for boys on both reading and math scores and a significant effect for girls on reading scores.

Time-on-reading provided a more refined measure of attention in a study by Arlin and Roth (1978). They used comics and books

in an attempt to discriminate which factors might be associated with time spent on-task while reading. Additionally they sought to establish a link between time spent on-task while reading and gains in reading comprehension. Results indicated that when students were on-task they spent more time on-reading with books than with comics. They found no difference in time on-task with either comics or books. Time on-reading provided a stronger link with reading comprehension gains than did time on-task. The authors concluded that the more refined measure did a better job of capturing the complexities of learning than time on-task.

Although the studies reviewed suggest a relationship between time on-task and pupil achievement, the association is less strong when the effects of ability are partialled out. However, when a more refined measure of engagement was used (Arlin & Roth, 1978), the association was strengthened. It is interesting to note that there was no indication of overlap between the task in which the pupils were engaged, and what they were tested on with the exception of one study (Bell and Davidson, 1976). Bell and Davidson linked observed attention of the students with performance on a teacher constructed test of material that had been covered during the observation period. Contrary to expectation, only 3 of the 23 classes observed evidenced a relationship between attention and achievement.

Stallings' (1975) extensive analysis of teaching practices in Follow Through classrooms served as a precursor to the examination of ALT. Input variables were sampled on the basis of

geographic regions, urban and rural areas, and racial and ethnic characteristics of the learners. Process variables consisted of observed teacher and child behavior as well as observations of classroom practices. These practices included time spent in reading and math, task persistence, and amount of time spent in school. Additionally, product variables included standardized measures used to determine child outcomes.

Although methods of instruction varied among the classrooms, there were results which related to the concept of ALT. The most significant result was that when drill was at a high rate, practice and praise contributed to higher reading and math scores. It was also found that task persistence was positively related to reading and math scores.

The Beginning Teacher Evaluation Study (Fisher et al., 1980) was the most definitive of the ALT studies. It was during this study that the concept of ALT was developed as a measure of student classroom learning using observable student behavior. Subjects included 139 second graders and 122 fifth graders who ranged from the 30th to the 60th percentile in reading and mathematics achievement. Extensive observations were made of allocated time, engagement rates, and success rates. Data were collected over 20 weeks using two separate time periods which made replication of results possible. In addition, teacher logs were recorded daily. The logs represented an improvement on earlier studies which relied on school or district records or teacher memory.

Several results of the BTES suggested relationships between ALT and academic achievement. These included:

1. A structured teacher with good diagnostic and prescriptive skills had students with better achievement and more ALT;
2. Academic feedback was positively associated with student learning;
3. Explanation in response to student need was negatively associated with high student success;
4. More frequent reprimands for inappropriate behavior were negatively associated with student learning;
5. Teacher emphasis on academic goals was positively associated with student learning (Fisher et al., 1980).

The BTES study shifted the focus in examining teacher effectiveness from factors associated with achievement to factors which maximized the learner's engagement during instruction.

The relationship of aspects of ALT to particular characteristics of learners was examined in two studies (Good & Beckerman, 1978; Karweit & Slavin, 1981). Good and Beckerman observed time on-task for high, middle, and low achievers in upper elementary classrooms. High achievers spent more time on task than low achievers, and pupil involvement was highest on tasks assigned by the teacher and in teacher-led groups.

Karweit and Slavin (1981) extended the process measures of Good and Beckerman and included outcome measures in their study. They compared the scheduled time, actual instructional time, engaged time and engaged rate for high, average, and low achieving elementary students. Measures included classroom



observation, a brief achievement test based on content covered during the observation, and the Comprehensive Test of Basic Skills. They found differences in results based on grade (2/3 vs. 4/5). Additionally, time effects were most evident in the more proximal measures. The variable which was most highly related to achievement was the engaged time of individual students. A strong effect for time on-task was evident for lower achieving students.

#### The Relationship of Class Size to ALT

There is some indication that greater teacher feedback (Fisher et al., 1980) and a high rate of drill and practice (Stallings, 1975) are associated with more positive student outcomes. It is logical to suppose, therefore, that smaller class size facilitates academic outcomes. This assumption was examined by Cahen (1981). Two second grade classes in rural Virginia and two in Oakland, California were each made into three classes in the middle of the school year. Comparison of pretest and posttest measures in Virginia indicated that there was an increase in attention to task, in contact with the teacher, and number of turns during reading group. Additionally, there was a decrease in waiting for help and in off-task behavior. The achievement data demonstrated that the California students exceeded their spring predicted scores on four subtests of BTES achievement battery while the Virginia students exceeded their predicted scores on all subtests except one. Cahen attributed

differences in results to smaller class size at both sites, and greater allocated time for instruction in Virginia.

### The Effect of ALT on Social Outcomes of Nonhandicapped Learners

Although the primary outcome of interest in ALT studies is academic, there has been some concern about the effect of a strong academic emphasis on social outcomes. Peterson (1979) questioned the effectiveness of direct instruction for diverse educational outcomes. She noted that although students' cognitive skills increase using teacher-centered methods, there is no effect for measures related to self-concept, locus of control and anxiety. Other instructional designs emphasize social goals. For example, "open classroom" approaches surpass traditional ones in improving students' attitudes toward their teacher and school, and in promoting their independence and curiosity. The size of the effect is small, however. (But see Stallings, 1975 for evidence of a positive relationship between achievement and self-esteem).

### ALT Measures for Handicapped Children Within the Regular Classroom

There have been relatively few studies of ALT for handicapped children within a regular class environment. The ALT of learning disabled students was compared to that of nonhandicapped students by Chow (1981). Although learning disabled students had similar amounts of time allocated to academics as regular students, they had less time engaged in academic tasks and less time engaged at a high success rate. In

the first year of the study, mainstreamed students had less than one-half the ALT of their nonhandicapped counterparts; in the second year of the study, it was reduced to one quarter. As the number of handicapped students in the class increased, the percentage of engaged time decreased. Additionally, the time the learning disabled students spent on low-success tasks increased. The relationship of class size to ALT indicated that in a larger mainstreamed class more time was spent on non-academic activities and less time on academic activities during a given academic subject.

Project PRIME (Kaufman, Agard, & Semmel, 1978) provided data related to time on-task for mainstreamed EMR students. For these students attention was positively related to the amount of time spent in teacher-directed small group instruction and the amount of time the teacher spent introducing or testing. Attention was negatively related to percent of time spent in student self-directed small or large group instruction and the percent of time the teacher spent supervising. While nonhandicapped students spent 82% of the allocated time attending to academic tasks, the EMR learners spent 72%. In results similar to those of Good and Beckerman (1978), PRIME found that mainstreamed EMR students high in normative academic status were on-task more than those with low normative academic status. ALT increased when academic tasks were prescriptively oriented for particular students.

Research on ALT in the regular class, although limited,

shows a strong relationship of ALT to achievement for both handicapped and nonhandicapped learners.

#### ALT and Handicapped Children in Special Class Environments

The relationship of allocated time to reading achievement was examined in secondary, remedial classes by Stallings (1980). Time allocated to specific reading activities was determined using classroom observations and a teacher behavior rating scale. The results of reading achievement tests were examined to determine student reading gain. The data supported the assumption that amount of time allocated to specific reading activities significantly affected reading gain and specific reading levels.

The hypothesis that ALT increases achievement was supported in a special class setting by Leinhardt, Zigmond and Cooley (1981). They observed 11 primary self-contained learning disability classes to determine the nature of the reading activities and the relationship between particular activities and improvement in reading test performance. Posttest performance was influenced by pretest performance, silent reading time and overlap of material taught.

Project PRIME examined on-task behavior of EMR children in resource rooms and special classes in addition to the behavior of the EMR children in the mainstream classroom cited previously. In the resource room EMR children were more attentive when there were peer verbalizations and less attentive when working on an individual activity apart from the other students.

Teacher-directed small group instruction and a high degree of teacher introducing and motivating also enhanced attention. EMR students in the resource room spent 89% of their time on-task compared to 72% when placed in the regular classroom, however, content covered was different in the two settings. Reading instruction occurred more frequently in the resource room than in the regular classroom, while science and social studies occurred more often in regular classes. Since there was a smaller class size in resource rooms than in the mainstream classes there was more opportunity for intensive instruction and active group participation.

Evidence indicated a relationship between ALT and achievement for EMR students in special class settings, as well. Fifteen percent of the variance in normative academic status was attributed to the amount of time spent in academic instruction. Attention was enhanced in structured classes where the teacher used student-directed individual instruction and coercive or legitimate influence.

### Summary

The essential aspects of the ALT model include: 1) the child is engaged in learning, that is, s/he is on-task; 2) the child experiences a high success rate; and 3) the task is related to a specific academic outcome (Borg, 1980). Using this model, there is persuasive evidence, for both handicapped and nonhandicapped learners, that there is a relationship between ALT and positive academic outcomes. ALT is facilitated in an

environment in which the teacher gives academic feedback to the learner and emphasizes academic goals. Additionally, it is important that the teacher has good diagnostic and prescriptive skills which enable him/her to accurately pinpoint the child's level of functioning.

It is clear that identifying a classroom in which ALT is fostered provides a handicapped learner with an environment which has the potential for facilitating academic outcomes. There are additional factors to consider, however. The evidence which considers the effect of emphasizing academic outcomes on social development is limited. Since handicapped children are often rejected in mainstreamed classrooms, social outcomes are important considerations.

## HOMOGENEOUS VERSUS HETEROGENEOUS GROUPING

Grouping children for instruction based on the ability level of the individual children represents an attempt to alter the environment to facilitate both teaching and learning. Benefits to the teachers include easing their task by restricting the academic diversity of their students. Benefits to the learners include the individualization of instruction based on their particular needs (Kirp, 1974). Additionally, teachers believe that placing children in homogeneous groups is an effective instructional practice (Wilson & Schmidts, 1978).

The efficacy studies did not provide evidence for the superiority of particular administrative grouping arrangements. However, research on the effectiveness of ability grouping for improving student outcomes provides another approach to the same issue. If heterogeneous groupings produce superior student outcomes, then the implication is that the regular classroom is a beneficial environment for handicapped learners. If, however, homogeneous groups are superior then perhaps the handicapped child would make better academic progress in a classroom grouped by ability. Thus, results of research on ability grouping provide information about an environmental variable which might be altered to facilitate academic achievement.

Grouping as an educational method has a long history. Homogeneous versus heterogeneous grouping was first systematically attempted in 1857 by W. T. Harris (Goldberg,



Passow, & Justman, 1966). Since that time many grouping variations have been developed including grade-level grouping, tracking into different curricular sequences, ability or achievement level grouping, assigning to special classes, multiage or multigrade grouping, and differential, subject-to-subject grouping. The assumptions behind ability or homogeneous grouping are that: 1) it materially reduces the range of learning-related differences within a group as compared with random or heterogeneous grouping, and 2) that this reduction of range facilitates both teaching and learning (Heathers, 1969, p. 564).

The use of homogeneous grouping implies that teachers will vary the learning tasks, instructional methods, and pace of advancement (Heathers, 1969) to reflect the characteristics of the particular group. One rationale for homogeneous grouping is that it allows students to progress at their own rate and to get more individual attention from teachers. Heterogeneous or random grouping is proposed as an alternative because: 1) homogeneous grouping is undemocratic and affects the self-concept of those in the lower group; 2) homogeneous grouping more accurately reflects reality; 3) students of lesser ability profit from learning with those of greater ability; and 4) it is impossible to achieve a truly homogeneous group (Esposito, 1973).

Past reviews of the literature revealed that when achievement gains were in favor of homogeneous grouping, the results were often explainable on the basis of different teaching

methods and materials, modification of educational objectives, and curriculum reorganization (Esposito, 1973; Heathers, 1969; Wilson & Schmidts, 1978 ) rather than the grouping pattern itself. The current literature suggests that grouping patterns may affect individual students differentially.

### The Effect of Grouping on Academic Outcomes

Studies on heterogeneous versus homogeneous grouping show that neither is superior for all pupils in improving achievement. The composition of the group can make some difference in the performance of its members, however. If it is used to meet the specific learning needs of different pupils through varying the curriculum, it may be effective (Goldberg et al., 1966).

In a four-year study of over 2,500 students, Borg (1966) examined the differences in the effects on elementary and junior high school pupils of an ability grouping system that distinguished between a curriculum that adjusted the rate of presentation of curricular materials, and a random grouping system that differentiated the curriculum through enrichment. Students were divided into superior, average, and slow groups using the results of the California Achievement Test Battery. Borg concluded that at the elementary and junior high school level neither random nor stratified grouping is superior for all pupils. At the elementary level, homogeneous grouping provided a slight advantage for superior pupils and random grouping was associated with slightly better academic performance for slow pupils. At the junior high level homogeneous grouping led to

greater mathematics achievement among superior pupils and greater science achievement for average students. For slower pupils, there was a slight tendency to favor random grouping for achievement in both mathematics and science. Pupils in a random grouping situation consistently developed better study methods during the elementary school years than pupils in a homogeneous grouping situation. Average pupils at the secondary level who were grouped randomly also showed significantly more gains in study habits.

The effects of grouping on academic achievement were found to be minimal in a study by Goldberg et al. (1966). Their intent was to study some of the aspects of ability grouping not adequately examined previously. Their study differentiated 2219 fifth grade students by I.Q. scores. Independent variables included the presence or absence of gifted or slow students, the relative position of the student's ability level within the range of ability levels in that class, as well as the range of ability in the class. Goldberg et al. found that "although the achievement differences among patterns of varying ability range were small, overall observed increments tended to favor the broad range. . . . However, no one pattern or combination of patterns was best for all pupils in all subjects" (p. 100).

The differences that were found in achievement gains were more a function of teacher competency or interest; "simply narrowing the ability range in the classroom does not necessarily result in a greater differentiation of content or method and is

not associated with greater academic achievement for any ability level" (p. 161). A caution is forthcoming from this study. Teachers of slow pupils tend to teach less content and have lower expectations. Yet those same slow pupils benefit from the exposure to enrichment activities in the broader range classes and show increases in achievement.

The studies previously cited explored the results of stratified grouping on students of varied intelligence and achievement levels. Laughlin (1978) investigated the effects of group composition on performance. College students were studied individually and in groups of from two to five. It was found that the performance of mixed groups of high, medium and low persons was proportional to the number of high-ability members of the group. Laughlin indicated that in comparing homogeneous to heterogeneous groups, the overall ability level of the homogeneous groups must be specified. Homogeneous high-ability groups perform better than heterogeneous or mixed-ability groups, while homogeneous low-ability groups perform less well than heterogeneous or mixed-ability groups.

Grouping according to age is another grouping variable. No significant differences were found by Way (1981) between children in multiage or single age classrooms on reading and math achievement test scores. Though Valett (1981) recommends functional achievement grouping as a way of remediating special education deficits, it does not seem to be more effective academically.

### The Effect of Grouping on Social Outcomes

The impact of homogeneous versus heterogeneous grouping arrangements on nonacademic variables is inconclusive. Attitudes towards peers are related to ability in random grouped classrooms, but not so in homogeneously grouped classrooms. Yet, at all ability levels, pupils in random grouped classrooms had more favorable self-concepts than comparable pupils in ability grouped classrooms according to Borg (1966). However, Goldberg et al. (1966) found that the self-assessments of slow pupils were raised when the range of ability levels in the class was narrow. This suggests that the presence of gifted pupils emphasizes the difference between the attainment of the slow pupils and their gifted peers. Way (1981) found that students were happier and showed greater satisfaction in multiage rather than single age groups.

### Grouping Effects in Institutional Settings

A study of approximately 1000 mentally retarded clients in three large institutions was conducted to identify the factors which contributed to variations in the quality of care provided in residential facilities for mentally retarded persons (Raynes, 1980). Grouping arrangements were one of the factors studied. It was found that functional grouping had deleterious consequences on the care of the severely and profoundly retarded. Mixed ability grouping, however, may produce diminishing returns for the more able mentally retarded. For severely mentally retarded individuals, homogeneous, functionally-based groups generated an

environment in which direct-care staff consistently provide care which was characteristically unstimulating, undifferentiated, depersonalized and rigid (Raynes, 1980).

### Summary

Although teachers favor ability grouping and feel that it leads to improved learning, the research suggests effects may be more complicated. There is some evidence that high ability students benefit from ability grouping (Borg, 1966), however, low ability students show increased academic gains when they are grouped heterogeneously (Borg, 1966). While the research has not included handicapped learners, the implication is that at least mildly handicapped children might be affected similarly.

For social outcomes, findings are inconclusive. Some studies indicated improved self-concept for learners in heterogeneously grouped classrooms. Others indicated that wide differences in ability are highlighted in randomly grouped classrooms, and those differences affect self-concept.

Because the research on effects related to ability grouping has been predominantly inconclusive it may not be a critical primary variable to consider in an analysis of environments. This does not mean, however, that important interactions may not exist for grouping arrangements and other factors (e.g., ability level). The research that has been done with low ability children, indicating favorable academic and social outcomes in mixed groups, at least suggests that random grouping does not have an adverse effect on handicapped learners.

### TEACHER BEHAVIOR AND ATTITUDES

It has been hypothesized that a relationship exists between the attitudes, expectations and behaviors of teachers and students' academic and social outcomes. Much of the research in this area was motivated by the work of Rosenthal and Jacobson (1968). These authors induced a teacher expectation of success for randomly selected children by indicating that those children were expected to "bloom" during the school year. Results demonstrated that students who were expected to achieve more, did. Rosenthal and Jacobson attributed this gain in a general ability measure to biased teacher expectancies and related changes in teacher behavior. Other researchers have failed to replicate Rosenthal and Jacobson's results (Claiborn, 1969; Jose & Cody, 1971), and the original study was criticized for methodological shortcomings (Safer, 1980). However, there has been a continued interest in the expectancy phenomenon.

For handicapped children the process related to expectancy effects begins with the labeling process. The reaction to the label is assumed to be followed by a series of steps:

- (1) teachers develop expectancies based on their perceptions or attitudes,
- (2) teachers behave differently based on differing expectations for students and,
- (3) differences in behavior affect student outcomes (Safer, 1980).



Teacher attitudes, expectations and behaviors are important only in relation to their effect on child outcomes. Each of the assumed relationships must be valid in order for child outcomes to be affected. In the following sections the empirical evidence which supports each of the assumptions is reviewed. If these assumptions are supported empirically there are implications for identifying appropriate environments for handicapped learners related to matching teachers to children.

### Relationship of Teacher Behavior to Child Outcomes

#### Academic Outcomes

Rosenthal and Jacobson (1968) attributed child changes directly to teacher expectations for success. Brophy and Gond (1970) postulated that teacher behavior, based on teacher attitudes and expectations, was an important mediating process affecting outcomes. While researchers have directly observed teachers' behavior in the classroom to examine the relationship between that behavior and child outcomes, that research is limited. Firestone and Brody (1975) attempted to identify the relationship between the quality of teacher-child interactions and academic performance in six kindergarten classrooms. They found a relationship between negative interactions with teacher and scores on all subtests of the Metropolitan Achievement Test. They also found a relationship between number of times a child was chosen to demonstrate in class and particular reading subtests. Children who had most interactions of all types had

positive correlations with total math scores. Because IQ was controlled in this study there is no indication that teachers behaved differentially toward children on the basis of their perceived ability.

Weinstein (1976) observed teacher-student interactions and their relationship to both reading achievement and sociometric status. She noted that teachers behaved differently toward high and low reading group members both during reading group instruction and large group instruction. Members of the low ability reading group had significantly more opportunities to respond and significantly more praise than high ability reading group members. Additionally, the low group had fewest members and consequently more teaching time per pupil. The teachers adjusted their responses to low ability children during large group instruction by repeating the question following the wrong answer. Low reading group children did receive lower scores on the reading achievement measure, however, it is not clear what proportion of the difference was related to differential teacher interactions and what proportion was related to initial ability differences. Anecdotal observations indicated that teachers communicated different expectations to different groups of children:

"For example, as early as the month of October, one of the teachers mentioned to her class 'Joey's group has all this to do because they are very smart and this is more difficult.' Classes were also frequently told to

watch assignment instructions for the highest reading group because some day they would all be able to do the work" (p. 115).

The relationship between classroom interactions and academic achievement for EMR and educationally handicapped children was examined by Forness, Silverstein and Guthrie (1979). They found results similar to those of Weinstein (1976) indicating that teachers respond more frequently to low achieving children. There was a significant negative relationship between teacher response and achievement in both the EMR and educationally handicapped classrooms.

The studies cited (Firestone & Brody, 1975; Forness et al., 1979; Weinstein, 1976) had contradictory results, indicating in one study that teachers behave more positively toward high achieving children and in the other studies that teachers have more positive and frequent interactions with low achieving children. One explanation for the disparate results may be that different teachers use praise and positive feedback to communicate different information. Brophy (1981) suggests that the function of praise may be:

- (1) as a spontaneous expression of surprise or admiration;
- (2) as balance for criticism or vindication of predictions or expectations;
- (3) as attempted vicarious reinforcement;
- (4) as avoidance of criticism;
- (5) as a peace-offering;

- (6) as a transitional ritual;
- (7) as encouragement for a consolation prize; or
- (8) as student elicited stroking (pp. 17-18)

Teachers in the studies cited, therefore, may have used praise in different ways for high and low achieving students. Weinstein (1976) provides support for this contention by stating, "It is possible that critical comments concerning performance suggest high expectations and that high rates of praise (and as the observers pointed out for less than perfect answers) convey an indiscriminate 'fine, fine, fine' to those from whom less is expected" (p. 115).

In addition, there is evidence to indicate that teacher behavior is differentially related to student achievement depending on the background characteristics of the learners. Good, Ebmeier and Beckerman (1978) found that while praise was positively related to mathematics achievement for low SES classrooms, it was negatively related to achievement in high SES classrooms. They also concluded that a relaxed classroom climate was more important for low SES children.

### Social Outcomes

A number of studies have examined the relationship of teacher behavior to social outcomes. Ascione and Borg (1980) studied the relationship of behavior to self-concept scores of nonhandicapped and learning disabled/emotionally disturbed children. Teachers who participated in the experimental group were trained on the Utah State University Self-Concept Protocol

Program. As a result of their training they used more appreciative praise, fewer direct commands, less judging or labeling, more "I-messages," and more inviting cooperation. Although the teachers in the experimental group changed their behavior, the self-concept scores of the handicapped children did not show concomitant gains. Lack of significant change may be explained by several factors: 1) there was no indication to whom the teachers' positive comments were directed. They may have been directed to the class in general rather than the handicapped children; and 2) there may not be a direct relationship between teacher behavior and particular outcome measures. For example, the measures used by Ascione and Borg may not have been affected by those aspects of teacher behavior.

The influence of teacher behavior on social acceptance measures has been studied for both nonhandicapped and handicapped children. An early study by Flanders and Havumaki (1960) indicated the choice value of a student was increased when that student had been praised by the group facilitator. Generalizations based on this study are limited, however, because the study took place in the laboratory. In a study which took place in the classroom, Hermann (1972) examined the influence of teacher approval and disapproval on the sociometric choices of upper elementary students. He found that while there was a significant relationship between teacher approval and acceptance, teacher disapproval had a minimal impact on classroom status. Foley (1979) studied the effect of teacher behavior on peer

acceptance of children labeled normal, learning disabled, or mentally retarded. Children in four fourth-grade classrooms viewed a videotape of a labeled child interacting with a teacher who responded to him approvingly or disapprovingly. A questionnaire was administered to measure acceptance or rejection of the videotaped child. Acceptance was significantly greater when the child was responded to positively rather than negatively. Children may be more likely to take cues from the teacher on the videotape, however, than in typical classroom circumstances when peer influence is also present.

#### Project PRIME

The influence of teacher behavior on both social and academic outcomes was examined in Project PRIME (Kaufman, Agard, & Semmel, 1978) in relation to the socioemotional climate of the classroom. The aspects of teacher behavior included in the socioemotional climate were teacher warmth, methods of influence, and directiveness. Project PRIME demonstrated that the relationship of teacher behavior to child outcomes is a complex one.

Academic status. Although the classroom environment was a powerful predictor of academic status for non-mainstreamed EMR students, the proportion contributed by teacher behavior was not significant. For mainstreamed EMR students and nonhandicapped children no aspect of classroom environment made a major contribution to academic status.

Academic Behavior. In an analysis of academic behavior, a

relationship was found between teacher warmth and attention to task for nonhandicapped students and EMR learners in the resource room. For EMR students in self-contained classrooms, attention was enhanced in a structured environment with teachers who used coercive or legitimate influence. Kaufman et al. concluded that attention to task for EMR learners did not occur solely as the result of a warm, supportive environment but rather in conjunction with smaller class size and more intensive small-group instruction. It appears, therefore, that teacher behavior may not be directly related to all academic outcomes but may explain part of the variance in conjunction with other factors.

Academic Attitudes. No relationship was found between teacher behavior and academic attitudes.

Social Status. Kaufman et al. additionally examined the influence of teacher behavior on social outcomes. The social status of learners was defined in terms of acceptance and rejection measures. For mainstreamed EMR learners acceptance was enhanced when the teacher used large group instruction. For EMR learners in self-contained classes there was greater acceptance when the teacher was directive.

Social Behavior. Teacher behavior had less influence on the misbehavior of handicapped learners. While the warmth of teachers influenced the friendly/cooperative behavior of nonhandicapped children and EMR children in self-contained classrooms, it did not significantly affect the behavior of EMR



children in the mainstream. There was a positive relationship between a teacher's nondirectiveness and the friendly/cooperative behavior of EMR youngsters in self-contained settings.

Social Attitudes. Postive social attitudes towards peers were facilitated for EMR children in self-contained classrooms by directive teachers.

Evidence from Project PRIME suggested that teachers affect both the social and academic competencies of handicapped children. However, it is clear that different types of behaviors facilitate different competencies. For example, while nondirective teachers contributed to positive social behavior, there was a relationship between directive teachers and postive social attitudes. Additionally, there were some competencies (e.g., normative academic status) that were relatively unaffected by teacher behavior. Further, there were teacher behaviors that were appropriate for some learners and not for others.

### Summary

There is evidence for a relationship between teacher behavior and child outcomes. Although studies which examined the effects of differential teacher behavior toward high and low ability students on outcome variables have produced somewhat inconsistent results, when either the child characteristics or the outcomes themselves were specified more clearly, effects were more interpretable. For example, teacher praise seems to affect achievement outcomes more for low SES children than for high SES children (Good et al., 1973). Further, Project PRIME results

indicated that when outcomes were differentiated into status, behavior or attitude measures, varying teacher behavior was associated with different outcomes.

### Teacher Expectations and Teacher Behavior

The second assumption of the expectancy research (Safer, 1980) is that teachers behave differently based on differing expectations for students. Brophy and Good (1974) define teacher expectations as "inferences that teachers make about present and future academic achievement and general classroom behavior of their students" (p. 32). They suggest that expectations arise from observed behavior or data that a teacher receives related to a particular student. The expectation effect occurs when the teacher's perceptions are "inaccurate and inflexible, so that the teacher begins to treat a student consistently as if he were somewhat different from what he actually is" (p. 35). For handicapped children, teacher expectations may be particularly limiting, if teachers expect less from learners than they could potentially achieve, socially and academically (MacMillan, 1977). The evidence related to expectation effect can be divided into expectations that are artificially induced by an experimenter and those that occur in naturalistic classroom settings.

#### Artificially Induced Expectations and their Influence on Teacher Behavior

The most consistent evidence for the influence of expectations on teacher behavior is provided in studies where the

expectations were artificially induced in a tutorial situation (Beez, 1968; Chaikin, Sigler, & Derlega, 1974; Rothbart, Dalfen & Barnett, 1971; Rubovits & Maehr, 1971; Rubovits & Maehr, 1973). Typically, children were randomly assigned to high ability or low ability groups and teacher trainees or graduate students were given false psychological information predicting the children's future success. Results indicated that teachers behaved in a consistently positive, task-oriented manner toward those students for whom they had high expectations; they behaved in a more negative, less task-oriented way to low expectation students. The external validity of these studies is limited for several reasons. These studies typically involved graduate students or undergraduate teacher trainees rather than classroom teachers. The contact between these "teachers" and the students was for the duration of the experiment only. The "teachers," therefore, had nothing on which to base their expectations except the information they were given by the researchers. In a regular classroom, teachers have ample opportunity to formulate their own expectations for pupil behavior and achievement based on naturally occurring contact, school records, information from other teachers, and experience with siblings.

#### Expectations in Naturalistic Settings and their Influence on Teacher Behavior

Studies of teacher expectations done in naturalistic settings have focused on differential teacher interactions with high and low ability students. Teachers behaved differently toward high

and low ability students in lower elementary classrooms (Brophy & Good, 1970; McDermott & Aron, 1978), in junior high classrooms (Good, Sikes & Brophy, 1973; Heller & White, 1975), toward boys and girls (Good, Cooper & Blakely, 1980; Good, Sikes & Brophy, 1973) and toward minority students (Jackson & Cosca, 1974). High ability students were given more praise and less criticism; teachers were more persistent in eliciting responses from those they categorized as having high ability; and teachers gave high ability students more second response opportunities.

It is interesting to note that high ability students initiated more work and procedural interactions with the teachers (Brophy & Good, 1970). It seems clear that while teacher expectations may be responsible for some differential teacher behavior, the classroom is best viewed as a transactional system. Teachers respond to the behavior of students, as well as to their own expectations.

Teachers respond differentially to boys and girls in their classrooms (Good et al., 1973). Boys seem to be more salient students: they received more praise as well as more criticism (although it is the low ability boys that accounted for most of the criticism). Additionally, since boys asked more questions and had more frequent contact with the teacher they created more response opportunities for themselves.

While there has been some consistency in the responses of teachers toward high and low ability students, there is a great deal of variability among teachers (Safer, 1980). Brophy and

Good (1974) explain the variability by suggesting that teachers react differently to their expectancies. They categorize teachers as overreactive, reactive and proactive. Proactive teachers are flexible: their expectations change as the behavior of student changes. However, goals for individual students are not greatly influenced by those expectations or student behavior. The reactive teacher is flexible but changes in response to student behavior; the teacher does not initiate the changes. The overreacting teacher is most prone to expectation effects. S/he responds to students as stereotypes rather than as individuals and is likely to favor students who exhibit good behavior and performance. Based on the explanation of Brophy and Good it would be important to identify proactive teachers for work with handicapped children.

#### Teacher Behavior Toward Handicapped Students in Regular Classes

While research with handicapped populations has not focused on expectations per se, there is an implicit assumption that expectancies are generated based on the identification of a child as handicapped. The expectation occurs, therefore, in association with the label, and teacher behavior is predicted to change based on that expectation.

Martin (1972) observed children in a regular classroom whom the teacher had defined as having behavior problems. While no difference was found in amount of praise or criticism of children who were defined as having behavior problems, he did find the

total frequency of student-teacher contacts with behavior problem boys was nearly twice that as with any other group. Teachers were involved in more contacts involving classroom procedure, behavior and academic interactions. Additionally, behavior problem children were asked more direct questions by teachers. The author suggested that questions may have been used as a management technique to control behavior.

The behavior of learning disabled students were examined by Bryan and Wheeler (1972). They found handicapped students spent more time in non-task oriented behaviors and less time on task-oriented behaviors, but that there was no difference in time spent interacting with peers or teachers. In fact, only one instance of a positive/negative interaction was identified during the observations. This low evaluative contact was explained by indicating the teachers knew who was being observed, and they may have selected children who did not typically get the most attention or they may have avoided those children during the course of the observation.

Forness and Esveldt (1975) observed classroom interactions of children who had been referred for learning or behavior problems to the UCLA Child Psychiatric Outpatient Department. In comparing these first and second graders to a control group, the researchers found that the target subjects received more attention from teachers. However, they did not indicate the direction (i.e., positive or negative) of attention. In a follow-up with the target children one year later a correlation

was found approaching significance between the children who differed the most in behavior from their peers and the severity of intervention, which ranged from remaining in a regular class with no supplemental services to being hospitalized in a psychiatric hospital.

A study of Chapman, Larsen and Parker (1979) with handicapped children is most similar in its design and intent to the studies that examined differential teacher behavior to high and low ability group children. In this study four first-grade teachers in middle class suburban schools were observed for student-teacher interactions using the Brophy-Good Scale. When the children were in second grade, the authors interviewed their teachers to determine which children were rated as having high, medium or low ability and which had been referred for special education. They then reviewed the first grade observations for differential interactions.

When the interactions were teacher-initiated, the learning disabled children received more praise, criticism, process and product feedback and procedural contacts. In student-initiated interactions learning disabled students initiated more comments. They initiated more contacts that resulted in praise in work contacts, and they initiated more contacts that resulted in criticism in both work and procedural contacts. There was no difference in opportunities to respond but there were results suggesting that handicapped students received fewer opportunities to respond to open questions. The referred



students received less than half the opportunity to read in reading groups compared to high or medium ability students. Learning disabled children received more criticism during procedural interactions and more criticisms and warnings regarding their classroom behavior. The authors state that "increased negative reinforcement without accompanying increases in positive reinforcement may reflect the regular teachers' inability to cope with the needs of these children for structure regarding classroom procedures and appropriate behaviors" (p. 230).

Different results were found by Richey, Miller and Lessman (1981). They compared 10 learning disabled children in grades three, four and five with a group of control children on SCAN, an instrument used to record all verbal interactions with teachers. The handicapped students received more positive reinforcement and less negative reinforcement (percentage differences were indicated; no tests were carried out regarding whether differences were significant). The authors concluded from their observations that positive reinforcement was used to "build the learning disabled child's confidence and self-image while more of a class contribution was asked for from the normal students" (p. 166).

#### Summary

The interactions of teachers with handicapped learners are different than with nonhandicapped children. However, these differences were not consistent. Although each study focused on

positive and negative behavior of the teacher to the learners, results were variable. The inconsistency of these results may be attributed to differences in observational systems or definitions of the variables studied. Additionally, teacher behavior is likely to be affected by a combination of variables, only one of which is the characteristics of the learner.

#### Teacher Behavior toward Handicapped Learners in Special Class Settings

Werry and Quay (1969) observed amount of teacher-student interactions in classrooms containing "conduct disordered children" and those containing normal children. They found more teacher contact with the conduct disordered children than with the nonhandicapped children and more positive attention initiated by the teacher. They add, "What these data do not show, however, is that most of this positive teacher initiated interaction occurred when the child was engaging in disruptive deviant behavior and no doubt reflects the commonly held attitude that the bad behavior of emotionally disturbed children must be understood rather than extinguished" (p. 465).

In a related study, Bryan (1974) observed the behavior of children labeled learning disabled in regular class and resource room settings. In the regular class she found teachers responded significantly more often to nonhandicapped comparison students. Additionally, there was a difference in the quality of interaction with handicapped versus nonhandicapped students: the teacher spent more time in work related interactions with the

learning disabled students and were more likely to have a personal interaction with the nonhandicapped students. In the resource room the same handicapped children had more time with the teacher and, significantly more positive and less negative reinforcement from the teacher. The resource room environment, therefore, allowed for optimum interaction with a teacher.

Bryan and Wheeler (1976) evaluated teacher behavior in classes for normal children, trainably mentally retarded, learning disabled and severely retarded-multiply handicapped. They used the Interaction Process Analysis (Bales, 1951) to observe differential behavior in the following categories: initiations to individual children, initiation to the group, responses and no responses to individuals or to the group, positive and negative comments and duration of interactions. The learning disabled group had the most completed interactions, the most adult initiations to which children responded, the longest duration of communications. The trainably mentally retarded class was second to the learning disabled group in total communication between teachers and children. The normal group had fewest adult initiations to individuals and most initiations to the group. The normal group also had fewer completed interactions with individuals. In the multiply handicapped class there was the greatest number of teacher initiations, but the fewest completed interactions, responses to initiations and continuous communications.

These studies suggest that a special class allows an

increased opportunity for child response and teacher initiation. This may be due to differential training of special class teachers which focuses on attention to individuals, however, it may also be a result of the lower class size which is typical of special classes. These results parallel those found for the relationship between lower class size and increased in academic learning time.

### Summary

In studies with nonhandicapped children, differential expectations were either artificially induced or formed by the teachers as they interacted with students in their classrooms. The most consistent results occurred in those studies with artificially induced expectations. These studies may be limited in their external validity, however, because: a) they involved graduate students or teacher trainees rather than classroom teachers, and b) the interactions between adult and child were artificially limited.

The results of studies conducted in classroom settings are more variable. Brophy and Good (1974) attribute this variability to variations in teacher characteristics. They classify teachers as proactive, reactive or overreactive based on their willingness to alter expectations of students when provided with conflicting information, and their ability to set realistic goals for students. Additional evidence for the variability of teachers is provided by anecdotal information from the studies. While observational systems use frequency counts to indicate amount of

teacher praise or criticism, there is no indication of the actual function of that praise.

There are a limited number of studies which compare the behavior of teachers in regular classrooms with handicapped and nonhandicapped students. The studies which exist are process-process studies and do not indicate the expectations of the teachers prior to the observations. It may be assumed that the teachers have expectations associated with handicaps but they are not identified in the studies, and they may be different for different teachers. Results were variable ranging from no difference to more praise given to handicapped children. Different results may be explained by the different instruments used to record behavior, by the variability of the teachers themselves, and by the different uses of praise and criticism.

The influence of setting as a variable related to teacher behavior was examined by Werry and Quay (1969) and Bryan and her colleagues (Bryan, 1974, Bryan & Wheeler, 1976). They found that special class and resource room teachers had more positive contacts with handicapped students than regular class teachers. These results may be attributable, however, not to the setting itself but rather to the lower class size in special class settings.

#### Attitudes and their Effect on Teacher Expectations

The third assumption of the expectancy research (Safer, 1930) is that teachers' attitudes affect the expectations they

hold for student success. Teachers' attitudes represent the initial link in the chain that joins expectations to behavior and then to child outcomes. The research related to attitudes is reviewed in the following section.

Brophy and Good (1974) define attitudes as primarily affective responses while expectations are cognitive. They characterize expectations and attitudes as closely interrelated phenomena which may interact with each other. Brophy and Good predict that attitudes affect teacher-child interactions similarly to expectations: "Once the teacher forms differential attitudes, the student may begin to respond differentially and in ways that will tend to complement and reinforce the teacher's attitudes" (pp. 130-131).

#### Teacher Attitudes Toward Nonhandicapped Students

Several studies have explored the notion that teachers' attitudes are reflected in their behavior (Good & Brophy, 1972; Silberman, 1969; Willis & Brophy, 1974). Silberman (1969) asked teachers to nominate children in their class for whom they felt attachment, concern, rejection and indifference. Observers then recorded the amount of teacher initiated contact, positive/negative evaluation and acquiescence toward these children. While the attachment children exhibited model behavior there was little evidence that teachers treated them preferentially. The concern group received the most teacher attention. The indifference group had less contact and received less praise than all the other attitude groups. Contact was

frequent with the rejection group and consisted primarily of attempts to control their misbehavior. Because the teachers in Silberman's study were given the attitude measure before the observations were made, their behavior may have been affected by that knowledge. Good and Brophy (1972) attempted to control for that possibility by making their observations before the attitude measures were taken. Their findings supported those of Silberman.

Brophy and Good (1974), in summarizing differences that were found in the studies done, conclude, "The effects of teacher attitudes on teacher-student interaction are not simple and universal. The degree to which teacher attitudes affect teacher-student interaction, and the particular ways that they do affect it when such effects are observed, will differ from teacher to teacher" (p. 149).

#### Teacher Attitudes Toward Handicapped Students

There is an assumption made in studies that examine the attitudes of teachers toward handicapped children that those attitudes will generate a certain expectancy which will be reflected in teaching behavior. It is assumed, therefore, that a positive attitude will contribute to the academic and social success of handicapped children. Attitudes of regular class teachers toward handicapped children seem particularly important because of the current emphasis on integrating handicapped children in the mainstream.

Shotel, Iano and McGettigan (1972) questioned regular class



teachers with respect to their attitudes toward: (1) integrating handicapped children, (2) the academic and social potentials of these children, (3) their competencies to teach handicapped children, and (4) the need for special methods and materials. Attitudes of teachers with exposure to handicapped children were compared to those of teachers who did not teach handicapped children. Attitudes for both groups were assessed at the beginning of the year before the experimental group had exposure to the mainstreaming program, and at the end of the year. Positive attitudes of the experimental group decreased from pretest to posttest. The authors' explanation for the decrease was that the initial positive attitudes of the experimental group were related to participation in a new program. Interviews with the teachers during the year indicated that while EMR children were not integrating well either academically or socially, both experimental and control group teachers were more positive on the posttest in their attitudes toward learning disabled children. Shotel et al. (1972) note, however, that the label learning disabled was not widely used in Pennsylvania during the time of the study and teachers categorized from 10 to 30% of the pupils in their classes as having this disability. They may not, therefore, have considered these children to be handicapped per se but merely having some difficulty in learning. Although control group teachers expressed greater doubt in their ability to competently teach handicapped children as the school year progressed, the experimental teachers maintained a more

optimistic attitude.

#### Attitudes toward Mainstreaming

While Shotel et al. (1972) examined the attitudes of teachers toward handicapped students, other studies have focused on the attitudes of teachers toward the mainstreaming process (Gickling & Theobald, 1975; Kaufman et al., 1973). The assumption of these studies is that teachers' attitudes toward the integration of handicapped students affects their behavior toward these students in the classroom.

Gickling and Theobald (1975) surveyed 326 teachers in Tennessee. They found that while a majority of teachers felt children were limited by special education placement, they did not feel adequately prepared to teach handicapped children in the regular classroom. There was greater support for resource rooms than for self-contained classrooms, and most teachers felt special classes provided superior programs than those provided by regular classes for handicapped children.

Regular classroom teachers in Project PRIME (Kaufman et al., 1973) reported a generally positive attitude toward mainstreaming mildly handicapped children. The problems that they did list included lack of time to work individually with students, lack of appropriate materials, and the inability of the handicapped students to work on group projects. Teachers felt problems could be alleviated through smaller classes and the availability of an aide. Similarly positive attitudes toward mainstreaming were expressed by special class teachers.

Kaufman et al. found a relationship between teacher characteristics and attitudes toward mainstreaming. They found that teachers who placed more emphasis on structure and control were less positive toward mainstreaming. Additionally, teachers with less teaching experience had more favorable attitudes toward integration.

Other teacher characteristics that are associated with willingness to mainstream include: number of special education courses taken (Stephens & Braun, 1980); grade level taught (Larrivee & Cook, 1979; Stephens & Braun, 1980) with elementary teachers exhibiting more positive attitudes, teachers' perceptions as to their degree of success working with handicapped children (Larrivee & Cook, 1980), and contact with handicapped people (Keilbaugh, 1977; Kennon & Sandoval, 1978).

### Summary

Descriptive studies have examined the attitudes of regular class and special class teachers toward handicapped learners. Shotel et al. (1972) provide evidence that is particularly pessimistic. Attitudes of teachers participating in the integration program became less positive as the program progressed. Attitudes expressed by teachers in the Shotel et al. study and that of Gickling and Theobald (1975) indicated that regular class teachers felt ill-prepared to cope with the addition of handicapped students in their classes. Both groups expressed the need for additional materials and different methods for working with handicapped students. While many regular class

teachers in Project PRIME felt positively toward integrating EMR learners into the mainstream, those teachers also expressed the need for appropriate materials and time for individual contact with the handicapped students. It seems unreasonable to expect teachers, who initially referred students for special help because they were unsuccessful in the classroom, to be willing to reintegrate them without some support services.

While there is evidence that teachers have different attitudes toward mainstreaming handicapped children it is not clear that attitude variation is directly reflected in teacher behavior. Limited evidence is provided by the work of Silberman (1969) and Brophy and Good (1972). Teachers were able to identify the attitudes they held toward specific children, however, there was not a direct relationship between positive attitudes/positive behavior and negative attitudes/negative behavior. Further research is needed which relates the attitudes of teachers toward handicapped children to the behavior of those teachers in the classroom.

#### The Influence of Labels on Attitudes and Expectations

The attitudes and expectations that teachers have toward nonhandicapped children are assumed to arise from characteristics of the children themselves. For handicapped children there is an additional factor which exists in conjunction with their observable qualities: the label that is associated with their particular handicapping condition. This label has been predicted

to influence the attitudes and expectations of the teachers (Reschly & Lamprecht, 1979). It is assumed that if a teacher knows that a child is retarded, learning disabled, or emotionally disturbed the teacher will behave differently toward the child than s/he would have behaved if the label were not assigned (MacMillan, 1977). Labeling is potentially the first step in the process which leads from particular attitudes and expectations to teacher behavior and finally to a negative effect on child outcomes. If teachers do not react differentially to a label then at least that source of influence on attitudes and expectations is not present.

There is evidence to indicate that teachers are influenced by the presence of a label (Foster & Keech, 1977; Gillung & Rucker, 1977). Foster, Schmidt and Sabatino (1976) randomly assigned 44 elementary teachers to either a normal expectancy or a low expectancy condition. The two groups viewed a videotape of a normal fourth grade child engaging in various activities. The low expectancy group was told the child was learning disabled; the normal expectancy group was told the child was normal. Both groups were then asked to complete a referral form based on observed behaviors. The group told that the boy was learning disabled rated him lower on academic items and higher on problem area items. This study demonstrated that perceptions of behavior were altered with the presence of a label.

Additional evidence for the effect of labeling was provided by Ysseldyke and Foster (1978). These authors used the same

videotape from the previous study, but they divided 75 elementary teachers into either an learning disabled, emotionally disturbed, or normal label group. In the baseline condition each group was asked to complete a checklist noting behaviors typical of a child with the label of their respective groups. They then viewed the videotape and redid the checklist based on behaviors observed on the tape. Ysseldyke and Foster found: (1) that teachers viewed normal behavior as different from behavior of handicapped children, and (2) teachers in the handicapped labeled groups rated the viewed behavior more negatively than those teachers in the normal label condition.

Algozzine, Mercer and Counterline (1977) suggested that labels may serve as indicators for the appropriateness of particular behaviors. They found that subjects rated behaviors less disturbing and more acceptable when there was a congruence between the label (e.g., learning disabled) and the behavior described (e.g., learning disabled behavior or emotionally disturbed behavior). This research can be contrasted with previously cited research which suggested that when a label is assigned, teachers define the behavior exhibited as congruent with that label:

Teacher response to a particular label in an experimental condition may partially be a function of the experimental situation itself. Foster and Salvia (1977) examined the effect of the demand characteristics of the situation on the assessment of children. Teachers were randomly assigned to one of four

groups: normal label, oral request to be objective; normal label, no objective request; learning disabled label, objective request; learning disabled label, no objective request. They then estimated the academic skills and undesirable behaviors of a normal fourth grade boy viewed on videotape. The teachers in the LD group rated the behaviors of the boy more negatively than those in the normal group. However, when the request to be objective was given the child was rated more positively by the learning disabled label group. The authors concluded "although a demand to be objective reduced the impact of the label, it did not remove it" (p. 534).

Although teachers' attitudes and expectations may be affected by labels, there is evidence to suggest that those effects may be mediated with extended exposure to a child. Reschly and Lamprecht (1979) examined the effect of a label on the expectations of teachers and then measured the change in those expectations with repeated exposure to the labeled child. While there were initial differences in expectations for success based on the initial label of EMR, normal or gifted, after the third 10-minute observation of the child's behavior there were no longer significant differences in the expectation of success for the three groups. These authors concluded that when there is sufficient opportunity to view behavior that is inconsistent with the label the expectancy effect is eliminated. Further evidence of exposure mediating the effects of a label is provided by Yoshida and Meyers (1975). These authors also found that



teachers did not form differential expectations for children based on an EMR label.

### Summary

The evidence indicating that labeling has a detrimental effect on teachers' attitudes and expectations is inconclusive. There is consistent information that teachers respond differently to children based on a label of EMR, emotionally disturbed, learning disabled, gifted and normal. However, there is also evidence that when teachers are exposed to repeated examples of behavior that are inconsistent with the label, the teachers revise their expectations. Studies which demonstrated labeling effects are similar to studies which show the effect of teacher expectations on teacher behavior: effects are most evident when experiments are done over a short period of time. With the passage of time, effects are likely to be mediated by more direct experience with the student(s).

### Modifying Teachers' Attitudes and Expectations

It has been assumed that positive attitudes toward handicapped children increase the likelihood that teachers will behave in a manner which facilitates child outcomes (Harasymiw & Horne, 1976). Therefore, modification of attitudes may be necessary to increase the successful integration of students within a mainstreaming environment. Techniques for attitude change have included contact and exposure, information and persuasion, simulations of disabilities and group discussion

(Donaldson, 1980).

Frith and Lindsey (1981) compared the attitudes of regular class teachers who had had 50 hours of inservice education with those who had not. They found that teachers significantly improved in their attitudes expressed on the Attitudes Toward Disabled Persons Scale (ATDP) as a result of training. This improvement was true primarily for males; females' attitudes were positive before inservice training.

The effectiveness of inservice and preservice training for changing the attitudes of 283 vocational teachers and teacher trainees was examined by McDaniel (1982). While both methods were effective in producing change in a more positive direction, McDonald found that the group that had information on the handicapped infused into the existing program did not show a significant gain. There is no indication, however, in either study which aspects of the training were responsible for attitude change.

Johnson and Cartwright (1979) combined contact with information to determine the relative effect of each on attitude change toward mainstreaming. They predicted that teacher trainees who experienced both information and contact would have more improvement in attitudes than teacher trainees who experienced only one component. The information and experience combination and the information only class were found to be most effective for improving participants' attitudes. The authors concluded that the information segment was most effective for

attitude change.

Attitude change based on contact and exposure was examined by several researchers (Shotel et al., 1972; Harasymiw & Horne, 1976). Shotel et al. found increased exposure decreased positive attitudes, however, pretest scores may have been inflated. The authors stated that the teachers "initial optimism represented an attempt to assume a cooperative and positive attitude toward the aims of the program" (p. 582). Harasymiw and Horne (1976) obtained different results. They compared attitude measures for 191 experimental and 161 control teachers. The experimental teachers were from schools that were in the process of integrating handicapped children into regular classrooms. The control teachers were from schools that did not integrate handicapped learners. The experimental group received workshop training and also received the support of the consulting services of specialists in their classrooms. No pretest was administered so no indication was given as to whether the attitudes of the experimental and control group differed before integration. Results indicated that: (1) experimental teachers had more favorable attitudes toward integration, (2) experimental teachers felt more competent in handling the management of different handicapped children, and (3) experimental and control group teachers did not differ in basic social distance attitudes. Experimental teachers did have less anxiety about working with handicapped children. Teachers in this study were provided with inservice programs and resource specialist assistance as well as

having increased contact with handicapped children. It appears that contact alone is not sufficient to bring about a positive change in attitudes.

### Modifying Teacher Behavior

Although there is limited evidence of the ability to modify attitudes, it is not clear that teachers' attitudes are directly reflected in teacher behavior (Good & Brophy, 1972; Silberman, 1969). However, there has been research done on changing the behavior of teachers through the use of feedback. Good and Brophy (1974) identified two groups of learners through classroom observation: a low participation group and an extension group (those with whom teachers did not persist in getting a response if they were rebuffed on the first attempt). Teachers were then asked to increase their interaction with these two groups. With the extension group the authors found that after feedback, teachers initiated more interactions, used more praise and more warnings rather than criticism, called on them more frequently and stayed with them as often as they did with their classmates. While there were not notable changes in the extension students, there was a change in the low participation group in the direction of greater participation.

Student-teacher interaction is not caused solely by the initiations of the teacher. Often teacher behavior is in response to information or feelings from the students. In an extension of the Silberman study, Willis and Brophy (1974) concluded that teachers behave in a particular way based on their

perceptions of the students themselves. Teachers characterized those students for whom they felt attachment as helpful, high ability, positive in their behavior, having an ability to work independently and physically attractive. The children for whom they felt concern were considered immature, needing and seeking teacher attention, needing reassurance and approval, lacking in self-confidence, but with a positive attitude toward schools. These children were evaluated as having low ability by the teachers, and they did have low Metropolitan Readiness scores. The indifference student had "blank" facial expressions, negative attitude toward school; they failed to live up to the teachers' expectations. They did not respond to the teachers in rewarding ways. The girls in this group had low Metropolitan Readiness scores, but the boys did not. The children in the rejection group were the only ones with a match in the teachers' estimation of their ability and their readiness scores. They showed no significant difference from their peers on their scores; yet the teachers characterized them as likely to fail school, loud, disruptive, with poor reading ability, having an inability to get along with others, and as having general low ability.

This information suggests that students have an impact on teachers' perceptions of them. The indifference children were perceived by the teachers as not liking school, and the authors felt that the teachers developed "defense mechanisms to protect (themselves) from continued frustration and rejection by the indifference group children" (p. 526). Other authors have shown

children's effect on adult behavior. Yarrow, Waxler and Scott (1971) randomly assigned preschool children into groups. Adult caretakers were instructed to exhibit high or low nurturant behavior to particular groups. Although adults maintained their role on the whole, there were differences in their responses to individual children. When adult approaches were followed by positive reinforcement from a child the adult was more likely to return to that child. Cantor and Gelfand (1977) used child confederates and observed rates of teacher praising, helping and attending to the children. In the responsive group the child was told to look at the adults, smile when praised, ask for feedback, talk spontaneously and respond enthusiastically. The same child under nonresponsive conditions exhibited opposite behaviors. The responsive child received significantly more verbal helping, nonverbal helping and attention. After the interaction the responsive children were rated as more intelligent, skillful and attractive. As with the indifference children characterized by Silberman (1969) and others, the nonresponsive children were not significantly different in their ability, but because of their responses to the teachers they were evaluated negatively and were avoided.

If handicapped children who are mainstreamed into regular classrooms can be characterized by their teachers as those who merit concern rather than indifference or rejection they have greater likelihood of success. The concern students in the Silberman study were aptly characterized as having low ability;

but because they responded positively to school and to the teacher they had more frequent contact with the teacher, more opportunity to answer questions, and the teachers responded favorably to their academic difficulties (Good & Brophy, 1972; Silberman, 1969). One possibility, then, is to use time when handicapped children are in a resource room or in a setting other than the regular class to train them to respond appropriately to the regular class teacher.



## THE ROLE OF PEER INTERACTIONS

There is a relationship between peer interactions and social outcomes. Children who are unsuccessful in their social encounters typically evidence greater discomfort, submissiveness, and anxiety, and are less willing to engage the environment (Hartup, 1978). In addition, there is some speculation that peer interaction may contribute to moral and social cognitive development (Hartup, 1978). Retrospective studies have linked social withdrawal to delinquency, adjustment difficulties and adult psychiatric disorders (Strain, Cooke, & Apolloni, 1976). Given the association between peer interactions and later social development, it is important to identify variables which contribute to positive peer relationships for handicapped children.

### Issues in Measurement

The basic approach to assessing social outcomes related to specific child characteristics has been correlational. Thus, evidence for the social success of handicapped children comes from measurement of covariance in attitudes, sociometric status and directly observed behavior. Although there are several types of attitude measures (public opinion surveys, investigations of stereotypes and attitude scaling) they share the characteristics of attempting to measure the beliefs held about certain groups rather than reactions to specific individuals (Strain & Kerr, 1931). Sociometric measures estimate attraction among

individuals in the same group (Asher & Hymel, 1981). Sociometric measures are assumed to measure either popularity (using rating-scale methods) or friendship patterns (using nomination methods) (Asher & Hymel, 1981). Actual social behavior is measured through direct observation of children.

There are complex relationships between results of attitudinal, sociometric, and behavioral measures. While there is an assumption that people will behave in a fashion that is consistent with their expressed attitudes (Shuman & Johnson, 1976), there has been limited success in attempts to demonstrate consistency between attitudes and overt behavior (Wicker, 1969). Behavior may vary substantially in response to situational factors which are not revealed by global measures of attitudes (De Fleur & Westie, 1963). There are "group norms, roles, definitions of situations, and other social constraints which materially mediate responses in situations involving either verbal behavior, attitude, or overt action" (De Fleur & Westie, 1963, p. 26). It is not unreasonable, therefore, to expect that attitude measures may not be adequate predictors of overt behavior.

It seems logical to expect a higher correspondence between sociometric results and actual behavior. This relationship has been found more often in preschool children than in older children. Hartup, Glazer and Charlesworth (1967) examined the relationship of positive and negative social reinforcement to sociometric choice. They found an association between acceptance

and the giving of positive reinforcement. A similar relationship was found between rejection on the sociometric measure and the giving of negative reinforcement. McGuire (1973) also found a relationship between aggression and sociometric rejection. Using the nomination method with preschool children, he found that highly aggressive males tended to be unpopular. That relationship was not found for girls, however. Koch (1933) indicated that popular children were those that conformed to groups norms and complied with teacher direction while unpopular children were those that hit, pushed and evidenced a lack of respect for personal property.

While a reasonably clear relationship exists between behavioral observations and sociometric measures of young children, that relationship is not as clear for elementary students (Asher & Hymel, 1981). Gottman, Gonso and Rasmussen (1975) examined actual behaviors inside and outside the classroom in an effort to identify the relationship between behavior and sociometric nominations of friendship. They found that high status children were given more positive reinforcement, but that their tendency to dispense more positive reinforcement was not significant. In an unpublished study Benson and Gottman (reported in Putallaz & Gottman, 1981) observed 114 kindergarten, first, third and fourth grade classes. They found that popular children received more positive contact with peers, but that there was no difference between popular and unpopular children in attempts to initiate peer contact. It seems clear that while the basis of

young children's relationships are evident and easily observed, the relationships among older children are more subtle and complex.

Asher and Hymel (1981) proposed several explanations for this difference. They suggested that: 1) there are fewer opportunities to observe social interaction among older children in the school environment; 2) correlates of social status in older children may not be behavioral but may be related to factors such as race, gender and physical appearance; 3) problems may be related to the observational systems themselves, particularly the inability to capture low frequency behavior; and 4) the changing nature of friendship itself precludes the identification of simple behavioral correlates.

Observational measures are also limited by their lack of historical context (Deno, Minkin, Robinson & Evans, 1980). Behavior is interpreted by the recipient on the basis of past interactions but the observer has no knowledge of these. Additionally, behavior is evaluated by group norms which may be unknown to the observer (Deno et. al, 1980).

### Social Outcomes in Early Childhood

#### Mild Handicaps

A common assumption of many educators advocating an early start for integration of handicapped and nonhandicapped children during early childhood has been that attitudes would be more positive at this age (Bricker, 1973). Most research in integrated preschools has been carried out using direct

observational techniques - requiring the assumption that children's behavior accurately represents the way they feel toward peers.

Existing observational studies of social interaction in integrated preschools indicate that mildly handicapped children are well-integrated with their nonhandicapped peers. For example, Peterson and Haralick (1977) found that while nonhandicapped children played more with other nonhandicapped peers, handicapped children were included in over 50% of the observed interactions. There was a trend for nonhandicapped children to seek out playmates with similar abilities, particularly in complex play. Similar results were obtained by Guralnick (1980) who found frequent interactions between nonhandicapped and mildly handicapped children. Additional confirmatory evidence was provided by Ipsa and Matz (1978) and Dunlop, Stoneman and Cantnell (1978). The implications of these studies are that attitudes of young nonhandicapped children toward mildly handicapped children are indeed positive.

#### Severe Handicaps

While there is evidence that young nonhandicapped children respond positively to mildly handicapped peers, they have less contact with more severely impaired children. Existing observational studies of social interaction in integrated preschools show that variance in the level of social involvement is correlated with the severity of the handicapped child's disability. In the previously cited study, Guralnick (1980)

found that moderately and severely handicapped children were isolated from nonhandicapped and mildly handicapped peers. Moreover, these trends accelerated across the year. These results are quite consistent with other reports. Sinson and Wetherwick (1981) integrated moderately handicapped Down's syndrome children with normal children in weekly play groups over a two-year period. They reported although the nonhandicapped children initially made "heroic" efforts to include the Down's syndrome children in play, that these social initiations faded systematically over the two-year period. Burton and Hirshoren (1979) speculated that the rejection by nonhandicapped children would increase as the severity of the handicapped increased. While that relationship applies with young children it does not seem to hold true with children during middle childhood.

#### Social Outcomes in Middle Childhood

While studies of attitudes at the preschool level rely on the direct observation of behavior, those in middle childhood have relied almost exclusively on sociometric and attitudinal measures. Additionally, while there are some studies which explore the attitudes of children in the primary grades (grades one-three) the bulk of the research has examined the attitudes of older elementary students (grades four-six). Therefore, there is limited evidence of the changes which may occur in attitudes toward the handicapped during the primary grades.

#### Mild Handicaps

Sociometric measures. Iano, Ayres, Heller, and McGettigan

(1974) compared the sociometric ratings of nonhandicapped, resource room children who had never attended special classes and former special class students who were partially integrated. Nonhandicapped students had greater peer acceptance than handicapped children, and students never placed in a special class had greater peer acceptance than those who had been placed. Gottlieb and Budoff (1973) used a forced choice sociometric measure to compare the acceptance of handicapped children in traditional and open classrooms. While EMR children in an open school were known to more children than those EMR children in a traditional school, the increased contact did not lead to greater acceptance. Integrated EMR children were rejected more than segregated children, and EMR children in the open school were rejected more than the EMR children in the traditional school.

In an attempt to identify the correlates of low sociometric status among mainstreamed EMR children Gottlieb, Semmel and Veldman (1978) examined the relative contributions of misbehavior and academic incompetence. There was no relationship between amount of time integrated and social status. There was a relationship, however, between misbehavior and rejection and between cognitive ability and social acceptance. The authors concluded that acceptance and rejection were separate constructs.

Sociometric measures have also been used to tap the social acceptance of children defined as learning disabled. Bryan (1974) found learning disabled children to be less well-accepted



than nonhandicapped upper elementary children. In a follow-up study, Bryan (1976) found that attraction and rejection ratings for handicapped students were consistent over time even though 75% of their classmates had not rated them in the initial study.

Siperstein, Bopp and Bak (1978) examined the social status of upper elementary learning disabled children. Although they were rejected as a group, there were handicapped children who were rated favorably: those nominated as best athletes. It seems clear that the rejection experienced by handicapped children is related to their lack of perceived competence. Evidence indicates that it is not the handicapped condition per se that contributes to low social status but rather the lack of academic or athletic competence, physical attractiveness or socially appropriate behaviors. These are characteristics valued during middle childhood.

Attitudinal measures. Several studies have examined the effect of labels on attitudes toward mildly handicapped children. Siperstein, Budoff and Bak (1980) identified children as "retard" or "mentally retarded," and measured attitudes using an adjective checklist and an activity preference list. Sixth graders responded more positively to those called "mentally retarded" than those called "retard." When the label used was limited to "mentally retarded" Gottlieb (1974) found that fourth grade students were not significantly influenced in their attitudes on an adjective checklist or on social distance measure. The label condition alone may not lead to the expression of negative

attitudes because: 1) in the absence of negative behavior children may feel it is inappropriate to express negative attitudes, and 2) the level of knowledge of upper elementary children about the words "mental retardation" is minimal (Budoff, Siperstein, & Conant, 1979).

Perception of similarity also contributes to the attitudes of nonhandicapped children (Siperstein & Chatillon, 1982). Siperstein and Chatillon found that fifth and sixth grade children rated retarded children more positively when they shared similar interests than when they did not. Positive attitudes were only expressed, however, by children who had been exposed to retarded peers. In addition to similarities of interests there may be actual behaviors of the handicapped children that contribute to positive attitudes of nonhandicapped peers.

Behavioral measures. There have been a limited number of studies which have used direct observation to compare the behavior of handicapped and nonhandicapped children. Gampel, Gottlieb and Harrison (1974) contrasted the behaviors of EMR children who had been randomly assigned to a special class or a regular class setting with support services with low IQ children not identified for special class placement and nonhandicapped children. They were observed on behaviors which included being out of seat, aggressive behavior, distraction, attention, and positive and negative verbal behavior. While there were no significant differences among low IQ, integrated EMR and nonhandicapped children, the segregated children exhibited

significantly more restlessness, and more negative verbal behavior both to and from their classmates. In this limited sample, integrated EMR children were not behaviorally different from their nonhandicapped peers. Since other measures confirm their rejection, the behavioral measures may not be sensitive enough to identify relevant behaviors or relevant behaviors may not have been specified.

Gottlieb and Davis (1973) examined the relationship between handicapping condition and the choice of partners in a bean bag toss game. Nonhandicapped children were asked to choose among nonhandicapped, integrated EMR and segregated EMR children as partners. With one exception, the non-EMR child was chosen in preference to either the integrated or segregated EMR child. When the subject had a choice between only the segregated or integrated child there was no significant preference. The authors suggested that because reinforcement was associated with a high score on the game, the nonhandicapped children were chosen because they were perceived as more competent.

#### Severe Handicaps

Although it is certainly counter-intuitive, two recent studies carried out with nonhandicapped children who have regular contact with severely handicapped peers have suggested that attitudes toward these children may be more positive than expected. The most important of these studies was conducted by Voeltz (1980), who analyzed the questionnaire responses of over 2000 elementary-aged children with various levels of contact with

children with severe handicaps. She found that there was a significant difference between the attitudes of children experiencing the various levels of contact, with those having greatest contact evidencing the most positive attitudes toward the handicapped children. Factor analysis indicated that these attitudinal differences clustered around the dimensions of "contact willingness" and "deviance consequence," that is, children with high contact with severely handicapped peers indicated a willingness for additional contact and disagreed with statements that handicapped children should be excluded from school or ostracized for unusual or aberrant behavior. There was evidence of a developmental trend in the data, such that younger children (grades two and three) showed less contact willingness and more negative attitudes toward unusual behavior than older children (grades four through six). Voeltz (1982) confirmed her results in a later study.

The Voeltz scale was used to measure the social acceptance of severely handicapped children in grades K-2, 3-6, and 7-12 (Brinker, n.d.). For each grade level the acceptance scores were higher for girls than for boys regardless of whether they had had contact with the severely impaired children or not. The mean acceptance score also changed as a function of grade, with older children giving higher acceptance scores than younger children.

Similarly positive results from providing opportunities for contact with severely handicapped children were reported by McHale and Simmeonsson (1980). These investigators structured

daily play sessions between elementary-aged children labeled "autistic" and nonhandicapped schoolmates. Questionnaires administered before and after this experience indicated that attitudes were predominantly positive before and somewhat more positive after getting to know the autistic children.

In each of the cited studies the nonhandicapped children had the opportunity for structured interaction with the severely handicapped children. It is not known if they would have expressed attitudes which were as positive without that intervention.

### Social Outcomes in Adolescence

#### Mild Handicaps

The number of studies which have examined the attitudes of adolescents to their handicapped peers is limited. The study by Sheare (1974) is frequently cited because it showed that increased contact led to an increase in positive attitudes. In findings similar to those from middle childhood, Sheare found that female students exhibited more positive attitudes than males.

Other studies which have examined the influence of contact have shown negative results. Strauch (1970) compared the attitudes of junior high students who attended some classes with EMR students with those who had no contact. A semantic differential technique was used to compare the attitudes toward "mentally retarded", regular class pupils, special class pupils and nonhandicapped people. The lowest attitude score was

assigned to mentally retarded people, the next lowest to special class people. Increased contact did not bring about more positive attitudes. Stager and Young (1981) used a combination attitude/sociometric questionnaire to examine the change in attitude toward integrated EMR adolescents over time. The EMR students were mainsteamed for a minimum of one regular class but none were integrated for an entire day. The authors found that EMR children were more socially accepted by other EMR students than by their nonhandicapped peers. The results are not surprising when the questionnaire is evaluated. Two of the six questions were related to competence: "Who has the most ability?" and "Who do you discuss homework with?" It seems unreasonable to expect that children who are classified as mentally retarded, because of limited academic ability, would be chosen either for exhibiting high ability or as homework consultants.

Research at this age level is minimal and is limited to an exploration of the effect of contact. The results that are available are inconclusive.

### Severe Handicaps

There is very limited evidence of the attitudes of nonhandicapped adolescents toward severely handicapped children. Cook and Wollensheim (1976) measured the attitudes of seventh and eighth grade students with varying amounts of contact with retarded children. One group had no contact, one group had

contact with EMR and TMR students, and one group had contact only with EMR students. They were evaluated on several measures including: an adjective checklist, a semantic differential measure, a perceived behavior measure and a commitment-to-involvement measure. There was only a mild correlation between the attitude measure and the measure of willingness for involvement. Children who were labeled mentally retarded were rated more negatively than those not labeled, regardless of contact. The children in the school containing both EMR and TMR children had significantly less commitment to involvement than children in the no-contact school. These results are contradictory to those obtained by Voeltz (1980) and Brinker (1982), and suggest that positive attitudes may be related to structured interaction.

#### Factors Mediating Peer Relationships

Although there is evidence that handicapped children as a group are not well-accepted by their peers, there are factors which may mediate the rejection. There are characteristics of the nonhandicapped children and of the environment itself which interact with the presence of a handicapped child to produce differential results.

#### Sex

Most studies have found a difference in the expressed attitudes of girls and boys, with girls consistently expressing more positive attitudes (Budoff & Siperstein, 1978; Siperstein et al., 1980; Siperstein & Chatillon, 1982). In one study



(Siperstein & Gottlieb, 1977) the girls expressed less acceptance for the target on the social distance measure. Because the target children were boys, the girls may have been reflecting the sex-cleavage that occurs during elementary school rather than any reaction to the handicap itself. The expression of positive attitudes by girls more than boys may be a reflection of the desire of girls for social approval from adults (Maccoby & Jacklin, 1974). It is interesting to note, however, that during overt behavioral interactions (Gottlieb & Davis, 1973) girls were no more likely to choose EMR children as partners than were boys.

#### Developmental Status

The majority of the research to date has not explored the potential for change in attitude as a function of development. The extant studies have either looked at a wide range of grade levels, but not examined differences as a result of age (Bruininks, 1978; Gottlieb & Budoff, 1973) or have looked at a narrow range of grade levels (Bryan, 1974; Gottlieb, 1975; Sigler, Mabec, & Lazar, 1978) and have, therefore, not had the opportunity to examine age-related attitude change. The purpose of one recent study was to examine this developmental process. Gottlieb and Switzky (1982) examined the cognitive beliefs of 585 upper elementary children on an adjective checklist. Results were examined in terms of four factors: general negative evaluation, general positive evaluation, likeability and unhappiness. Attitudes changed as a function of the age of the

respondents. As age increased, mentally retarded persons were perceived in less negative terms on factors one and four, and children in grades four, five and six perceived mentally retarded persons in more positive terms on the likeability factor. Gottlieb and Switzky suggested that changes in attitude may be related to cognitive changes that occur in children during middle childhood.

#### Environmental Variables

The PRIME model (Kaufman et al. 1978) has suggested that social competence may be attributed, at least partially, to the nature of the socioemotional climate within the classroom. There is a relationship between the interactions that children have with teachers and peers which influence their self-evaluation, behavior, and ultimately, the way they come to be perceived by others. The teacher provides leadership and sets goals which contribute partially to classroom climate. The peer group, however, provides additional influence and is characterized by cohesiveness or friction. Cohesiveness can lead to satisfaction within the group, cooperative behavior, harmony and a low level of friction and peer dislike.

Results of the PRIME analysis indicated that in both regular and self-contained classrooms the degree of acceptance of other students in the class far exceeded the degree of rejection. Additionally, a relationship was found between a high degree of peer harmony and a low level of pupil dislike. The teacher can facilitate one aspect of cohesiveness within the classroom:

teacher warmth and teacher directiveness significantly predicted peer harmony. It was interesting to note that there was no relationship found between teacher leadership and peer dislike.

Product Measures. Project PRIME examined the effect of socioemotional factors, as well as learner characteristics, on social competency measures of status, behavior (friendly/cooperative, antisocial) and attitudes. The authors hypothesized that the environment would be a larger influence on social outcomes than any characteristic of the learner.

Results for Social Status. The results indicated that the socioemotional climate explained a significant proportion of variance in both acceptance and rejection for nonhandicapped, mainstreamed EMR, and segregated EMR students. Specifically, when dislike among peers was low, the focus learner, whether normal or retarded, was better accepted and less rejected than in classrooms in which peer dislike was high. The authors noted, however, that these results may be an artifact of the measurement indices.

Results for Social Behavior. This outcome measure sought to identify the relationship between environmental variations and their effect on positive and negative behavior. Results indicated that background characteristics, as well as the socioemotional climate of the class, were related to antisocial behavior: it occurred more frequently in classes characterized by little harmony among peers. The socioemotional climate measures also predicted a small but significant proportion of the variance

accounted for in friendly/cooperative behavior, as well.

Results for Social Attitudes. The results showed that the socioemotional climate in the classrooms was significantly related to feelings about peers among all three groups of learners.

Summary. Results from Project PRIME demonstrated clearly that there is an association between the climate which exists among peers within a classroom and the social competencies of the learners. It would be beneficial, therefore, to locate classrooms where peer harmony is high and peer dislike is low to facilitate the acceptance of handicapped children.

#### Intervention Studies

##### Changing the Competence of the Learner

Mild Handicaps. There is evidence that the perception that mildly handicapped children are less competent contributes to their lack of acceptance. A series of studies attempted to manipulate competency and measure the resulting effect on social acceptance.

Aloia, Beaver and Pettus (1978) examined the effect of presumed competency in a game-playing situation on selection of an EMR student as a partner. Although the competent EMR child was chosen, the nonretarded pair member was selected as a partner more frequently. Marlowe (1979) used a game-analysis intervention to promote social interaction. Games analysis separates games into their component parts then alters parts to allow for individual differences. This study used observational

data as well as sociometric change to evaluate the effects of the intervention on a retarded ten-year-old boy. Marlowe found an increase in task participation and peer-oriented behaviors and a decrease in uncommunicative and rejecting behaviors during the treatment phase. There was also a positive gain in peer acceptance on a sociometric rating administered three weeks following the intervention. The use of games as an intervention strategy seems a particularly promising one to increase the social competence of boys because the structure of their friendship groups often involves games.

Two studies (Strichart, 1974; Strichart & Gottlieb, 1975) explored the relationship of competence to imitation of a model. Strichart and Gottlieb (1975) found that as EMR children were shown to be more competent the likelihood of imitation by a nonhandicapped peer increased. They additionally found a significant correlation between the assumed competence level of the retarded peer and the frequency with which they were chosen as future partners in a game. The authors concluded that an increase in social acceptance may occur when retarded children have skills which enable them to be seen as competent.

Strain (1981) used a rigged competitive game situation to increase interpersonal attraction of three retarded ten-year-old boys. During the intervention, the handicapped children were responsible for their team members obtaining reinforcement. Strain found an increase in positive interactions that lasted through a four-week follow-up observation. He also found a

significant change in sociometric status of the three children. Prior to the intervention, the three boys were rated as "wouldn't like" by all members of their class. At the four-week follow-up, the boys received only "friend" and "alright" ratings.

Putallaz and Gottman (1981) did not develop a strategy for remediating difficulties of unpopular children, however, their research suggests an intervention approach. They compared the behavior of nonhandicapped second and third grade children in making entry bids into a group. The unpopular children: waited longer before making first bid, took more time for entry than popular children and acted in a way which resulted in their being ignored. Additionally, they disagreed more, called more attention to themselves and asked more informational questions than popular children (p. 143). The authors suggested that an appropriate intervention would involve coaching to reduce initial hovering behavior and to reduce their entry strategies that elicited attention. It is not known if similar differences in entry behaviors exist for handicapped children. An effective intervention strategy for developing entry behaviors, however, should reflect differences in the responses of boys and girls to newcomers (Eder & Hallinan, 1978).

Oden and Asher (1977) used coaching in social skills to increase the friendship ratings of isolated children. They found that coaching was effective in increasing peer acceptance, and that evidence of greater inclusion was found at a follow-up assessment one year later. They also found a small,

nonsignificant gain in number of best friends listed on a sociometric measure. Asher and Renshaw (1981) explained that behavioral change is not sufficient but rather cognitive processes must also change to improve social competence. Social skillfulness includes: 1) knowledge of interaction principles, 2) knowledge of the behaviors that follow from the general concepts, 3) ability to set goals, and 4) the ability to perceive one's effect on others (pp. 287-289). The implications for interventions for handicapped children are clear: there is a relationship between social competence or cognition and friendship formation. Behaviors can be reinforced and mildly handicapped children can be portrayed as competent in an effort to increase positive initiations toward them. But, unless the handicapped children are trained or develop a level of social competence that is equal to their nonhandicapped peers, there will be little basis for inclusion and approval.

Severe Handicaps. While there have been a number of intervention studies focusing on mildly handicapped children, fewer have focused on severely handicapped learners. Strain and his colleagues (Strain, 1977; Strain, Shores, & Timm, 1977) used a nonhandicapped peer to increase the social behavior of withdrawn preschool children. The confederate was trained to initiate social interactions by making requests to play. The three handicapped children emitted few positive social behaviors during the baseline condition, but these behaviors increased appreciably when the confederate intervened. Two of the three



handicapped children generalized their positive social behaviors to the free play situation which followed the training.

Donder and Nietupski (1981) used nonhandicapped volunteers, nine boys and five girls, to increase the playground skills of three Down's Syndrome and multiply handicapped boys. As a result of the planned interactions, the handicapped children increased their appropriate behavior and increased interaction with nonhandicapped peers. Although no formal measure was taken of the attitudes or acceptance of the nonhandicapped, 8 of the 14 volunteers continued to interact with the handicapped students at the termination of the intervention.

Although the goal of the interventions cited has been to increase the social competence of the handicapped child, the methods used to achieve this goal were different from those used with more mildly handicapped learners. In studies with severely handicapped children (Donder & Nietupski, 1981; Strain, 1977; Strain et al., 1977), nonhandicapped children were used as change agents to increase the social behavior of the handicapped children. This technique may create an investment in the interaction for all participants, and may lead to long-lasting change.

#### Changing the Attitudes of Nonhandicapped Peers

Another intervention consists of attempting to change the negative attitudes of the nonhandicapped children themselves. A film was used by Westervelt and McKinney (1980) to alter the attitudes of fourth-grade children who had scored below the

median on a social distance questionnaire dealing with physically handicapped people. The focus of the film was similarities between physically abled children and those in wheelchairs. Although there was an initial increase in positive attitudes there were no lasting effects.

Group discussion was used to change the attitudes of children in grades three through six (Gottlieb, 1980). Gottlieb attempted to influence the negative attitudes of children by placing them in groups for discussion with children with either positive or neutral attitudes. He also varied the children within the groups on the basis of sociometric status. Results indicated that children with positive attitudes were not more effective change agents than those with neutral attitudes: there was attitude change among the negative children in all experimental groups. There was no indication, however, if the attitude change lasted over time.

Other attempts to modify attitudes have used a combination of approaches. Jones, Sowell, Jones and Butler (1981) used a five-hour training program consisting of simulation, films, interviews and discussion. The authors reported a significant change in attitude as a result of the intervention. There was no attempt to determine if one aspect of the intervention contributed more than any other toward attitude change. Additionally no attempt was made to test for maintenance of the attitude change.

In an interesting variation that included planned

interactions with handicapped children, as well as cognitive information, there were less conclusive results (Simpson, Parrish & Cook, 1976). In one experiment, second and third grade students participated in a four-week intervention that included: a teaching sequence with slides, films, filmstrips and role playing. Additionally there were "controlled activities" with similarly-aged handicapped children. No differences were found between the control and experimental groups following the intervention, although the experimental group did significantly improve on their pretest scores on the attitude scale as a result of intervention. In a second experiment one experimental group received informational experiences alone while the second experimental group was integrated for one hour per week into a class for emotionally disturbed children. While attitudes changed as a result of the intervention, one procedure was not more effective than the other. Girls exhibited more favorable attitudes than boys regardless of treatment.

Altering teacher behavior has also been suggested as a method of indirectly influencing the attitudes of nonhandicapped children toward the handicapped. Foley (1979) presented videotaped segments to fourth grade children of a teacher responding positively and negatively to a child labeled mentally retarded or learning disabled. The author found that children were more accepting of the filmed child when the teacher responded to that child in a positive manner. Although this technique was not used to alter negative attitudes in Foley's

study, it is a potential intervention.

### Environmental Interventions

Cooperative learning arrangements represent an environmental intervention. Chennault (1967) found that unpopular children who participated in the planning, rehearsal and presentation of a skit improved significantly in peer acceptance. Lilly (1971) attempted to determine which aspects of a cooperative learning treatment contributed to sociometric change for low achieving elementary students. While the experimental treatments as a whole significantly changed social acceptance, there was no difference between specific treatment groups. Ballard, Corman, Gottlieb and Kaufman (1977) used a cooperative learning activity to improve the social status of mainstreamed retarded children. They found that the social acceptance of the experimental group was significantly greater following treatment than that of the control group. There was no significant difference, however, in rejection of the two groups following treatment. Interestingly, they also found a greater acceptance of experimental children by classmates who had not participated in the cooperative activity itself.

Johnson and Johnson (1980) state that acceptance of handicapped children is facilitated when interaction occurs within the context of positive goal interdependence. Cooperation implies coordination to achieve a goal, and it is structured so that all must achieve the goal in order for any to achieve it. They state that "a direct consequence of cooperative experiences

is a positive cathexis in which the positive value attached to another person's efforts to help one achieve one's goals become generalized to that person" (p. 94). It is likely that cooperative learning can provide a climate to facilitate the friendship development of retarded children. Hallinan and Tuma (1978) suggest that friendship development is fostered by small group interaction and the nature of cooperation itself encourages taking into account another person's point of view in reaching a goal. Additionally cooperative learning is incompatible with competition for individual academic achievement which places children with mental handicaps at a disadvantage.

#### Summary

When social outcomes are evaluated in terms of the attitudes and acceptance of nonhandicapped children toward their handicapped peers results are consistently negative. There are factors, however, which seem to mediate rejection including the sex and developmental status of the nonhandicapped peer and environmental characteristics. These factors lead to the development of particular educational intervention strategies, as well as suggesting particular environments which may lead to the acceptance of handicapped children.

Girls express more positive attitudes than boys toward handicapped children. It is important to note, however, that studies which have examined the actual interactions of children with their handicapped peers have not shown sex differences. Although girls may express appropriate attitudes, the sex

cleavage which is prevalent during middle childhood suggests that an intervention strategy which focuses on nonhandicapped girls will only be successful if the handicapped peer is also a girl.

Because there seems to be a relationship between developmental status and attitudes toward handicapped children integration efforts might best be structured differently at different age levels. At the preschool level relationships between nonhandicapped and mildly handicapped children appear quite felicitous, and may need little or no specialized intervention. However, with severely handicapped children more direct programming seems necessary if desirable levels of cross-group social interaction and positive social relationships are to be achieved. With older elementary-aged children it appears that more specific programming is necessary with mildly handicapped children, too. One profitable tactic might be to provide "discrimination training" to extend the person perception skills of the nonhandicapped children toward appreciation of some of the psychological and motivational factors contributing to unusual behavior and depressed performance by mildly handicapped children. The nature and extent of positive attitudes toward severely handicapped children at the elementary age is unclear. Replication of the Voeltz (1980) investigation, and the initiation of a line of developmental research utilizing free description methodology would contribute to clarification of these issues.

Because there have been a limited number of studies which

have examined the relationship of the environment to peer acceptance, its importance needs further investigation. The results of Project PRIME indicate a strong association between the socioemotional climate which exists in a classroom and the resultant harmony or dislike among students. Results also suggested that the teacher has some ability to affect the classroom climate.



This document is a compilation of abstracts of the extant literature on the principles of LRE. An explanation of each line of the abstract follows.

- Line 1: Alphabetical listing by first author. Each author of the article is included in this line.
- Line 2: Complete title of the article.
- Line 3: Journal name, journal year, volume, number, page numbers.
- Lines 4-9: Gives content information about the article.
- Line 4: INPUT variables consist of those aspects of the educational environment which exist prior to specific educational intervention and which the author(s) predicts will affect child outcomes. If the article examines input variables, these variables are listed.
- Line 5: PROCESS variables represent planned and unplanned changes in the educational environment which the author(s) predicts will affect child outcomes. If the article examines process variables, those variables are listed.
- Line 6: PRODUCT variables represent measures of instructional outcomes. If the article examines product variables, those variables are listed.
- Line 7: This line provides the subject description for an empirical study.
- a. If the subjects are drawn from a particular environment (i.e., regular class, resource room or special class), there is a Y(es) to indicate that population.
  - b. Age of the subjects may be PSCHL (preschool), ELEM (elementary), SCNDY (secondary) or adult.
  - c. HANDICAP may be LH/LD (learning handicapped, learning disabled, SH (severely handicapped), NH (nonhandicapped), HI (hearing impaired), CH (communicatively handicapped), PH (physically handicapped), EMR (educably mentally retarded).

- Line 8:
- a. DESIGN. This provides information about the design. The article may be an empirical study, either experimental, quasiexperimental, or intrasubject; or a non-empirical paper.
  - b. DEPENDENT VARIABLE. In an empirical study, the dependent variable is listed.
  - c. COMMENTS. This section lists the independent variable(s) in an empirical study. For a non-empirical article, it provides a brief summary of the article itself. Other salient information is also included.

Abbreviations which have been used throughout the abstracts:

ABIL	ability
ACH	achievement
AJMD	<u>American Journal of Mental Deficiency</u>
ALT	academic learning time
ATT	attitudes
BEHAV	behavior, behavioral
CHAR CHARAC	characteristic(s)
CHL	children
CLSRM	classroom
COMPET	competitive
CONTIN	contingency
COOP	cooperative
ED	emotionally disturbed, education, educational
EMR	educably mentally retarded
ETMR	<u>Education and Training of the Mentally Retarded</u>
EXP	experiment
GRP	group
HETERO	heterogeneous
HNDCP	handicap
HOMO	homogeneous
INDIV	individual, individualistic
IND VAR	independent variable(s)

JABA	<u>Journal of Applied Behavioral Analysis</u>
LD	learning disabled
MAINSTR	mainstreaming
MR	mentally retarded
MSRE	measure
MSTY	mastery
NRML	normal
PRE SRV	preservice
REG	regular
SES	socioeconomic status
TCHR	teacher
TMR	trainable mentally retarded
TRNG	training

0 0 0

INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: DEP VARBL:

COMMENTS:

AJZEK T FISHBEIN M

ATTITUDE-BEHAVIOR RELATIONSHIP: A THEORETICAL ANALYSIS & REVIEW OF EMPIRICAL RESEARCH  
 PSYCHOLOGICAL BULLETIN 1977 84 0 888-918

INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 ATTITUDE BEHAVIOR RELATIONSHIP

COMMENTS: REVIEW OF RESEARCH ON ATT

ALEXANDER C STRAIN P

REVIEW OF EDUCATORS' ATTITUDES TOWARD HANDICAPPED CHILDREN & THE CONCEPT OF MAINSTREAMING  
 PSYCHOLOGY IN THE SCHOOLS 1978 15 0 390-396

INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:

COMMENTS: REVIEW OF ATTITUDES

ALGOZZINE B CURRAN T

TEACHERS' PREDICTIONS OF CHILDREN'S SCHOOL SUCCESS AS A FUNCTION OF BEHAVIOR TOLERANCES  
 JOURNAL OF ED RESEARCH 1979 72 0 344-347

INPUT: TEACHER CHARACTERISTICS  
 PROCESS:  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HANDCP:  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: CHILD OUTCOME  
 HIGH/LOW TOLERANCE FOR SOCIAL FACILITY

COMMENTS: IND VAR-TEACHER CHARAC.

ALGOZZINE B MERCER C ET AL

COUNTERMINE THE EFFECTS OF LABELS AND BEHAVIOR ON TEACHER  
 EXCEPTIONAL CHILDREN 1977 44 0 131-132

EXPECTATIONS

INPUT: LABELS/TEACHER ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDCP:  
 DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: QUESTIONNAIRE  
 OR APPROPRIATE TO LABEL

COMMENTS: IND VAR- LABEL AND BEHAVI

ALMOND P

RODGERS S KRUG D

MAINSTREAMING: A MODEL FOR INCLUDING ELEMENTARY STUDENTS IN SEVERELY HANDICAPPED CLASSROOM  
TEACHING EXCEPTIONAL CHILDREN 1979 11 4 135-137

INPUT:

PROCESS: PEER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: Y AGE: ELEM HANDICAP: SH

DESIGN: EMPIRICAL/QUASI-EXPERIMENTAL DEP VARBL: # CONTACTS W/ NH CHILDREN COMMENTS: IND VAR-BASELINE/EXPOSURE  
TO NH SUPERVISORS DEP VAR-# PREACADEMIC PROGRAM TAUGHT TO CRITERION

ALOIA C

EFFECTS OF PHYSICAL STIGMA AND LABELS ON JUDGEMENT OF SUBNORMALITY BY PRESERVATION TEACHER  
MENTAL RETARDATION 1975 13 0 17-21

INPUT: TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HANDICAP:

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: QUESTIONNAIRE

ATTRACTIVENESS OF CHILDREN IN PHOTOGRAPHS

COMMENTS: IND VAR - LABELS, PHYSICAL

ALOIA C BEAVER R PETTUS W

INCREASING INITIAL INTERACTION AMONG INTEGRATED EHR & NA PEERS IN GAME SITUATION  
AJHD 1978 82 0 573-579

INPUT: CHILD CHARACTER

PROCESS: PEER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: LH

DESIGN: EXP-CONTROL GROUP DEP VARBL: SELECTION RATE OF EHR SUBJ COMMENTS: IND VAR - COMPETENCY OF  
EHR SUBJ/COOP-COMPETITIVE GAMES OF SELECTION

ALOIA C KNUTSON R ET AL

MINNER S VONSEGGERN M

P.E. TEACHERS' INITIAL PERCEPTIONS OF HANDICAPPED CHILDREN  
MENTAL RETARDATION 1980 18 0 85-87

INPUT: TEACHER CHARACTER/ATTITUDE

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HANDICAP:

DESIGN: EXP-RANDOM ASSIGNMENT DEP VARBL: QUESTIONNAIRE

MORE SUBJECT INFORMATION AVAILABLE

COMMENTS: IND VAR - LABELS

ALOIA C MAXWELL J ALOIA S

INFLUENCE OF A CHILD'S RACE & EHR LABEL ON INITIAL IMPRESSIONS OF REG CLASS TEACHERS  
AJHD 1981 85 0 619-623

INPUT: TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HANDICAP:

DESIGN: EXP-RANDOM ASSIGNMENT DEP VARBL: QUESTIONNAIRE

EFFECTS OF RACE/EHR LABEL

COMMENTS: IND VAR - CHILD CHARACTER

233

BEST COPY

ALPER S DENEVE R RETISH P

THE JFK HIGH SCHOOL WORK STUDY PROGRAM  
ETHR 1973 8 0 27-29

INPUT:  
 PROCESS: LEARNING ARRANGEMENTS  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: Y AGE: SCHDY HNDCP: LH  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 LAB-SIMULATED WORK EXPERIENCESCHANGE IN EHR SELF-CONCEPT

COMMENTS: ACTUAL LIFE EXPERIENCE

AMES C AMES R FELKER D

EFFECTS COMPETITIVE REWARD STRUCTURE & VALENCE OUTCOME ON CHILDREN ACHIEVEMENT ATTRIBUTES  
JOURNAL OF EDUCATIONAL PSYCHOLOGY 1977 69 0 1-8

INPUT:  
 PROCESS: COOPERATIVE LEARNING  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: QUESTIONNAIRE  
 STRUCTURE

COMMENTS: IND VAR-OUTCOME. REWARD S

ARMSTRONG J

INDIVIDUALLY GUIDED EDUCATION: ONE MODEL FOR MAINSTREAMING  
FOCUS ON EXCEPTIONAL CHILDREN 1976 8 0

INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 WHICH PROVIDES INDIVIDUALIZATION OF INSTRUCTION IN THE REGULAR CLASSROOM

COMMENTS: DESCRIPTION OF ICE SYSTEM

ARONSON E BRIDGEMAN D ET AL GEFNER R

INTERDEPENDENT INTERACTIONS AND PROSOCIAL BEHAVIOR  
JOURNAL OF RESEARCH & DEVELOPMENT IN EDUCATION 1978 12 0 16-27

INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 INTERACTION IN CLASSROOMS

COMMENTS: EFFECTS OF INTERDEPENDENT

ASCIONE F BORG W

EFFECTS OF A TRAINING PROGRAM ON TEACHER BEHAVIOR & HANDICAPPED CHILDREN'S SELF-CONCEPT  
THE JOURNAL OF PSYCHOLOGY 1980 104 0 53-65

INPUT:  
 PROCESS: TCHR BEHAV/IN-SERVICE TRNG  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:  
 DESIGN: EXP - EXP/CONTROL GRP DEP VARBL: OBSERV/QUESTION-CHILDREN  
 AVAILABLE

COMMENTS: ADDITIONAL SUBJECT INFO

BALLARD M CORMAN L ET AL COTTLIEB J & KAUFMAN HJ  
IMPROVING THE SOCIAL STATUS OF MAINSTREAMED RETARDED CHILDREN  
J OF EDUCATIONAL PSYCHOLOGY 1977 69 0 605-611

INPUT:

PROCESS: COOPERATIVE LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: LH

DESIGN: EXP-RANDOM ASSIGN/PRE/POS DEP VARBL: SOCIOMETRIC TEST

NING. RESULTS-ACCEPT/REJECT NOT EQUALLY AFFECTED BY INTERVENTION.

COMMENTS: IND VAR- COOPERATIVE LEAR  
DECREMENT OF SOCIALSTATUS OF EHR IN CONTROL. GROUP

BEERY K

MAINSTREAMING: A PROBLEM AND AN OPPORTUNITY FOR GENERAL EDUCATION  
FOCUS ON EXCEPTIONAL CHILDREN 1974 6 0 1-7

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:

DESIGN: NON-EMPIRICAL DEP VARBL:

GRAM SHOULD BE GENERATED BY ENTIRE STAFF/FEELS GENERAL ED SHOULD TAKE LEAD IN INCREASING INDIVIDUALIZATION

COMMENTS: ORGANIZATH OF MAINSTR PRO

BEEZ W

INFLUENCE OF BIASED PSYCH OLOGICAL REPORTS ON TEACHER BE HAVIOR AND PUPIL PERFORMANCE  
PRCEEDNGS/76TH ANNUAL CHVNTN 1968 0 0 605-606

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP:

DESIGN: EXPERIMENTAL

ONS, LABEL

DEP VARBL: TCHR BEHAV/PUPIL PRFRMNC COMMENTS: IND VAR-TEACHER EXPECTATI  
AGE: INCL/DES ADULT SOURCE: PROCEEDINGS. 76TH ANNUAL CONVENTION (APA)

BLOCK J

SUCCESS RATE

TIME TO LEARN

1980 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:

DESIGN: NON-EMPIRICAL DEP VARBL:

BEGINNING TEACHER EVALUATION STUDY PERTINENT TO SUCCESS RATE

COMMENTS: SUMMARIZES FINDING OF

BORG W

ABILITY GROUPING IN THE PUBLIC SCHOOLS

DEHBAR ED RESEARCH SERVICES 1966 0 0

INPUT: CHILD SETTING/CHARACT.

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACHIEVEMENT TEST ETC

ENRICHMENT VS HOMOGENEOUS

GROUPING W/ ADJUSTED RATE

COMMENTS: IND VAR-HETEROGENEOUS W/  
AGE: SCNDY INCLUDED

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LRE ABSTRACTS

BORYS S SPITZ H

EFFECT OF PEER INTERACTION ON THE PROBLEM SOLVING BEHAVIOR OF MR YOUTHS  
AJHD 1979 84 0 273-279

INPUT:  
PROCESS: MODELING/PEER INTERACTION  
PRODUCT: CHILD OUTCOMES  
REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: SH  
DESIGN: EXP-CONTROL GRP/PRE/POST DEP VARBL: PIACETIAN TASKS  
ERACTON ON PROBLEM SOLVING PERFORMANCE-LOGIC/CONSERV TASK

COMMENTS: NO SIG EFFECT OF PEER INT

BOUCHER C

TEACHERS' DECISIONS ABOUT MAINSTREAMING  
EDUCATION UNLIMITED 1981 3 0 9-11

INPUT: LABEL/TCHR ATTITUDES

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL

SEVERITY OF HNDCP, REG OR SP EDTEACHER, ELEM OR SCNDY LEVEL, SEX, YEARS OF TEACHING EXPERIENCE  
DEP VARBL: TCHR PLACEMENT DECISIONS COMMENTS: END VAR-ED/LD LABEL.

BRANDIS H RADER J HALLINELL R

STUDY FOR DETERMINING LRE PLACEMENT OF HANDICAPPED CHILD RCN  
(REPORT FOR USDE) 1980 0 0

INPUT: PLACEMENT: PROCEDURES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP: LH

DESIGN: EMPIRICAL

EHEMENT PROCEDURES  
DEP VAR: STATE ANNUAL PROGRAM PLAN ANALYSIS COMMENTS: IND VAR: POLICIES AND PLAC

BROLIN D DURAND R ET AL

KROMER K MULLER P

POSTSCHOOL ADJUSTMENT OF EDUCABLE RETARDED STUDENTS

ETHR 1975 10 0 144-149

INPUT:

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL: Y AGE: HNDCP:

DESIGN: EXP-RANDOM SELECTION

RESULTED IN SIGNIFICANTLY BETTER VOCATIONAL ADJUSTMENT  
DEP VARBL: QUESTIONNAIRE

COMMENTS: WORK/STUDY EXPERIENCE

BROPHY J

TEACHER PRAISE: A FUNCTIONAL ANALYSIS

REVIEW OF ED RESEARCH 1981 51 0 5-32

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL

AND FUNCTIONS OF PRAISE  
DEP VARBL:

COMMENTS: DISCUSSION OF DEFINITIONS

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## BROPHY J GOOD T

TCHR'S COMMUNCTN DIFFEREN TIAL EXPECTATN FR CHLDN CLSRN PERFORMANCE: SOME BEHAV DATA  
 JOURNAL OF ED PSYCHOLOGY 1970 61 0 363-374  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS: TEACHER BEHAVIOR  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: CHILD BEHAVIOR  
 AGE: INCLUDES ADULT

COMMENTS: IND VAR- TEACHER BEHAVIOR

## BROWN A

INTEGRATION OF TRAINABLE STUDENTS IN A REGULAR HIGH SCHOOL BUILDING  
 ETMR 1976 11 1 51-52

INPUT:  
 PROCESS:  
 PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL

DEP VARBL:

STUDENT ADVOCATED AT THE HIGH SCHOOL LEVEL TO WORK WITH

THR STUDENTS

COMMENTS: DISCUSSES THE USE OF

## BRUININKS R RYNDERS J CROSS J

SOCIAL ACCEPTANCE OF MILD LY RETARDED PUPILS IN RESOURCE ROOMS AND REGULAR CLASSES  
 AMERICAN JRNL/MENTAL DFCNCY 1974 78 0 377-384

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SOCIOMETRIC MEASURE

EX

COMMENTS: IND VAR-SCHOOL SETTING. S

## BRUININKS V

ACTUAL AND PERCEIVED PEER STATUS OF LEARNING-DISABLED STUDENTS IN MAINSTR PROGRAMS  
 JOURNAL OF SPECIAL ED 1978 12 1 51-58

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDCP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: PEER ACCEPTANCE SCALE

COMMENTS: IND VAR-LD VS COMPARISON

## BRUININKS V

PEER STATUS & PERSONALITY CHARACTERISTICS OF LD AND NON- LD STUDENTS  
 JRNL OF LEARNING DISABILITY 1978 11 2 484-489

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDCP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SOCIOMETRIC MEASURE

COMMENTS: IND VAR-LD VS NON-LD

BRYAN T

PEER POPULARITY OF LEARNING-DISABLED STUDENTS  
JRNL OF LEARNING DISABILITY 1974 7 0 31-35  
INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SOCIOMETRIC RATINGS

COMMENTS: IND VAR-ACCEPTANCE OR

REJECTION

BRYAN T

AN OBSERVATIONAL ANALYSIS OF CLASSROOM BEHAVIORS OF CHL WITH LEARNING DISABILITIES  
J OF LEARNING DISABILITIES 1974 7 2 35-43

INPUT: CHILD CHAR

PROCESS: TEACHER BEHAV/PEER BEHAV

PRODUCT:

REGULAR: Y RESOURCE: Y SPECIAL: AGE: ELEM HNDGP: LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: DIRECT OBSERVATION

COMMENTS: IND VAR-LD VS NA CHILDREN

RESOURCE ROOM/ REGULAR CLASS SETTING

BRYAN T

PEER POPULARITY OF LD CHI LDREN: A REPLICATION  
JRNL OF LEARNING DISABILITY 1976 9 0 307-311

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SOCIOMETRIC RATING

COMMENTS: IND VAR-HNDGP/NH. SEX

BRYAN T WHEELER R

TCHRS BEHAV IN CLASSES FOR SEVERELY RETARDED, MULTIPL TRAINABLE MR. LD & NA CHILDREN  
MENTAL RETARDATION 1976 14 0 41-45

INPUT: SETTING CHARACTERISTIC

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: Y SPECIAL: Y AGE: TCHR HNDGP: SH/LH/NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: DIRECT OBSERVATION

COMMENTS: IND VAR-SETTING CHARAC

BUDOFF M SIPERSTEIN G

LOW-INCOME CHLDREN ATTITUD ES TOWARD MR CHLDREN: EFFECTS OF LABELING AND ACADEMIC BEHAV  
AMERICAN JRNL/MENTAL DFCNCY 1978 82 0 474-479

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: ADJECTIVE CHECKLIST

COMMENTS: IND VAR-COMPETENT/INCOMPE

TENT LABELED MR

BUDOFF M SIPERSTEIN C CONANT S

CHILDREN'S KNOWLEDGE OF MENTAL RETARDATION

ETHR

1979 14 0 277-281

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH

DESIGN: EMPIRICAL/DESCRIPTIVE DEP VARBL: ATTITUDE QUESTIONNAIRE

7-9,10-12)

AGE: INCLUDES SCHDY

COMMENTS: IND VAR-GRADE LEVEL 4-6.

BULLOCK L RIGG W

RELATIONSHIP OF INDIVIDUALIZED INSTRUCTION TO PLACEMENT OF EXCEPTIONAL CHILDREN

EXCEPTIONAL CHILDREN

1980 47 0 224-225

INPUT: CHILD/SETTING CHARAC

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: LH

DESIGN: DESCRIPTIVE DEP VARBL: QUESTIONNAIRE

COMMENTS: IND VAR-INDIVIDUALIZATION

BURRELLO L

SELECTING STRATEGIES FOR THE FULL IMPLEMENTATION OF PL 94-142

JOURNAL OF SPECIAL EDUCATION 1981 15 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:

DESIGN: NON-EMPIRICAL DEP VARBL:

SYMPOSIUM/ADAPTIVE STRATEGY IS NEEDED TO DEAL WITH IMPACT

COMMENTS: RESPONSE TO SABATINO  
FACTORS NOT PROGRAMMED STRATEG

BURTON T HIRSHOREN A

SOME FURTHER THOUGHTS &amp; CLARIFICATIONS ON ED OF SEVERE &amp; PROFOUNDLY RETARDED CHILDREN

EXCEPTIONAL CHILDREN

1979 45 0 618-625

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:

DESIGN: NON EMPIRICAL DEP VARBL:

SONTAG, CERTO, &amp; BUTTON'S COMMENTS ON ED OF SEVERELY RETARDED CHILDREN

COMMENTS: DISCUSSION &amp; RESPONSE TO

CAHEN L

RECENT RESEARCH ON CLASS SIZE AND ITS IMPLICATION FOR MAINSTREAMING

PRESENTATION

1981 0 0

INPUT:

PROCESS: DIRECT TCHNG/TCHR BEHAV

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TIME SAMPLING OBSERV. ETC. COMMENTS: IND VAR-CLASS SIZE  
DEP VAR-PRE/POST ACHIEVEMENT TESTS PRESENTED AT SESSION 32.23 AERA

LRE ABSTRACTS

CARLSON L POTTER R

TRAINING CLASSROOM TCHRS TO PROVIDE IN-CLASS ED SERVICE FOR EXCEP CHLDN IN RURAL AREA  
JOURNAL OF SCHOOL PSYCHOLOGY 1972 10 0 147-151  
INPUT: TEACHER CHARACTERISTICS  
PROCESS: INSERVICE TRAINING  
PRODUCT: SOCIAL VALIDATION  
REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: QUESTIONNAIRE

COMMENTS: NO COMPARISON GROUP

CARROLL C REPUCCI M

MEANINGS THAT PROFESSIONALS ATTACH TO LABELS FOR CHILDREN  
JRNAL CONSULTING/CLIN PSYCH 1978 46 3 372-374  
INPUT: LABEL/ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE QUESTIONNAIRE

COMMENTS: IND VAR-LABELS/GROUP

CARROLL J

A MODEL OF SCHOOL LEARNING  
TEACHERS COLLEGE RECORD 1962 64 0 723-733  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
MODEL OF SCHOOL LEARNING

COMMENTS: PRESENTS A CONCEPTUAL

CHAFFIN J

WILL THE REAL MAINSTREAM PROGRAM PLEASE STAND UP (OR SHOULD DUNK HAVE DONE IT?)  
FOCUS ON EXCEPTIONAL CHILDREN 1974 6 0  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
ASSESS/DISCUSS ALTERNATIVE DELIVERY SYSTEMS/MAINSTREAM MODELS/GUIDELINES FOR ADMINISTRATORS INITIATING MAINSTREAM PROGRAMS

COMMENTS: REVIEWS DEBATE RE SPEC CL

CHAIKIN A BIGLER E DERLEGA V

NONVERBAL MEDIATORS OF TEACHER EXPECTANCY EFFECTS  
JRNAL/PERSON & SOCIAL PSYCH 1974 30 0 144-149  
INPUT: CHILD CHARACTERISTICS  
PROCESS: TEACHER BEHAVIOR  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-LABEL

300

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CHAPMAN R LARSEN S ET AL

PARKER RM

INTERACTION OF FIRST

GRADE TEACHERS WITH LEARNING

DISABLED CHILDREN

J OF LEARNING DISABILITIES

1979 12 0 225-250

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: EXPERIMENTAL

DEP VARBL: DIRECT OBSERVATION

COMMENTS: IND VAR - RESPONSE BY

TEACHERS WHO WERE LATERED

DETERMINED TO HAVE LD

CHENNAULT M

IMPROVING SOCIAL ACCEPTING OF UNPOPULAR EDUCABLE MR PUPIL IN SPECIAL CLASSES

AMERICAN JRNL MENTAL DEFENCY 1967 72 0 435-438

INPUT: CHILD CHARACTERISTICS

PROCESS: COOP LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SOCIOMETRIC RATING

COMMENTS: IND VAR-PLANNING, REHEARSA

L, PRESENTATION OF SKIT

CHOW S

A STUDY OF ACADEMIC

LEARNING TIME OF MAINSTREAMED LEARNING DISABLED STUDENTS

FAR WEST LABORATORY

1981 0 0

INPUT: CHILD CHARACTERISTICS

PROCESS: DIRECT TCHNG/CHILD BEHAV

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: LH/NH

DESIGN: DESCRIPTIVE

DEP VARBL: ACHIEVEMENT TESTS ETC

COMMENTS: IND VAR-ALT

DEP VAR-TEACHER QUESTIONNAIRES/CLASSROOM OBSERVATION

CLAIBORN W

EXPECTANCY EFFECTS IN THE CLASSROOM: A FAILURE TO REPLICATE

JOURNAL OF ED PSYCHOLOGY 1969 60 0 377-383

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-CHILD ABILITY

LEVEL

AGE: INCLUDES ADULT

CLARK E

TEACHER ATTITUDES TOWARD INTEGRATION OF CHILDREN WITH HANDICAPS

ETHR 1976 11 0 333-335

INPUT:

PROCESS:

PRODUCT: SOCIAL VALIDATION

REGULAR: Y RESOURCE: SPECIAL:

AGE: TCHR HNDCP:

DESIGN: NON EMPIRICAL

DEP VARBL: ATTITUDE CHANGE

COMMENTS:

301

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## LRE ABSTRACTS

COLE J PENNINGTON B

CHILDREN'S PERCEPTIONS OF DEVIANCE AND DISORDER  
CHILD DEVELOPMENT 1976 47 0 407-413  
INPUT: CHILD CHARAC/ATTRIBUTIONS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: CATEGORIES OF DEVIANCE COMMENTS: IND VAR-GRADE LEVEL SEX

COLES G CHABEPSKY A

EVALUATION OF INNOVATIONS IN WALBERG H J  
ED ENVIRONMENTS & EFFECTS 1979 0 0

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: DESCRIPTIVE DEP VARBL: QUESTIONNAIRE, ACH TESTS COMMENTS: IND VAR-INTENSIVE INNOVATION  
WALBERG H J (ED) AGE: INCLUDES SCNDY

COLES G CHALUPSKY A

EVALUATION OF INNOVATIONS  
(IN BOOK) 1979 0 0

INPUT:

PROCESS: ENVIRONMENT

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACHIEVEMENT TESTS COMMENTS: BOOK TITLE: EDUCATIONAL  
ENVIRONMENTS AND EFFECTS IND VAR: INNOVATIONS

COOK J WOLLERSHEIM J

EFFECT OF LABEL SPEC ED STUDENT ON PERCEPT OF CONTACT VS NONCONTACT NORMAL PEERS  
JRNL OF SPECIAL EDUCATION 1976 10 0 187-198

INPUT: SETTING CHARAC/CHILD ATTI

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH

DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: SEMANTIC DIFF EVAL ETC COMMENTS: IND VAR-AMT OF CONTACT U-  
MR DEP VAR-PERCEIVED BEHAV MSRE. COMMITMENT TO INVOLVEMENT MSRE COMMITMENT TO INVOLVEMENT MSRE

COOPER L JOHNSON D

JOHNSON R WILDERSON F

EFFECT OF COOP, COMPET, & INDIV EXPERIENCES ON INTERPERS ATTRAC AMONG HETEROGEN PEERS  
JOURNAL OF SOCIAL PSYCHOLOGY 1980 111 0 243-252

INPUT: CHILD CHARACTERISTICS

PROCESS: COOP LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: LH

DESIGN: EXPERIMENTAL DEP VARBL: SOCIONETRIC MEASURE ETC COMMENTS: IND VAR-COAL STRUCTURE, 5  
EX, RACE, ABILITY DEP VAR-ATTITUDE SCALE

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## CRUICKSHANK W

LEAST RESTRICTIVE PLACEMENT: ADMINISTRATIVE WISHFUL THINKING  
J OF LEARNING DISABILITIES 1977 10 0  
INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:

DESIGN: NON-EMPIRICAL DEP VARIABLE:

THAT ONE ENVIRONMENT IS LESS RESTRICTING/ADMIN DECISION DOESN'T CORRECT CAUSE OF POOR EDUCATION OF LEARNERS/NEED THEORY-RESEARCH POLICY

COMMENTS: NO RESEARCH TO DEMONSTRATE

## DAVIS E

PUBLIC SCHOOL PRINCIPALS' ATTITUDES TOWARD MAINSTREAMING RETARDED PUPILS  
EDUCATION/TRAINING OF MR 1980 15 0 174-178

INPUT: ADMINISTRATIVE VARIABLES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: LH

DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARIABLE: PERCEPTION OF SUCCESS/MAINSTREAM COMMENTS: IND VARIABLE-QUESTIONNAIRE

AGE: INCLUDES SECONDARY

## DEHERS L

EFFECTIVE MAINSTREAMING FOR THE LEARNERS STUDENTS W/ BEHAVIOR PROBLEMS  
J OF LEARNING DISABILITIES 1981 14 0 179-203

INPUT:

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES.

REGULAR: RESOURCE: Y SPECIAL: AGE: ELEM HANDICAP: LH

DESIGN: EXP-INTRA SUBJECT DEP VARIABLE: DIRECT OBSERVATION

APPROPRIATE BEHAVIOR/RESPONSE COST FOR NEGATIVE BEHAVIOR

COMMENTS: IND VARIABLE-REINFORCE FOR APPROPRIATE

## DENO E

SPECIAL EDUCATION AS DEVELOPMENTAL CAPITAL  
EXCEPTIONAL CHILDREN 1970 37 0 229-237

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:

DESIGN: NON-EMPIRICAL DEP VARIABLE:

COMMENTS: CASCADE OF SERVICES

## DEVRIES D EDWARDS K

LEARNING GAMES & STUDENT TEAMS: THEIR EFFECTS ON CLASSROOM PRACTICE  
AMERICAN EDUCATION RESEARCH JOURNAL 1973 10 0 307-318

INPUT: SETTING CHARACTERISTICS

PROCESS: CHILD BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: SECONDARY HANDICAP: NH

DESIGN: EXPERIMENTAL DEP VARIABLE: OBSERVE STUDENT BEHAVIOR ETC COMMENTS: IND VARIABLE-TASK REWARD.

ACHIEVEMENT DEP VARIABLE-STUDENT REPORTS

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LRE ABSTRACTS

DEVRIES D SLAVIN R

TEAMS-GAMES-TOURNAMENT: REVIEW OF TEN CLASSROOM EXPERIMENTS  
JRNL/RESEARCH & DVPMT IN ED 1978 12 0 28-38  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
IN CLASSROOMS

COMMENTS: REVIEW OF TGT EXPERIMENTS

DICK H LEWIS H

SCHOOL ATTENDANCE AREAS AS A FACTOR IN ATT OF EHR ADOL ESCENT STU TWD SCHOOL  
ETHR 1972 7 0 82-87  
INPUT: SETTING CHAR/CHILD CHAR  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HANDCP: LH  
DESIGN: QUASI-EXP DEP VARBL: QUESTIONNAIRE

COMMENTS: IND VAR-ATTENDANCE AREA

DONALDSON J

CHANGING ATTITUDES TOWARD HANDICAPPED PERSONS: A REVIEW AND ANALYSIS OF RESEARCH  
EXCEPTIONAL CHILDREN 1980 46 0 504-514  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
ATTEMPTS

COMMENTS: REVIEW OF ATTITUDE CHANGE

DONDER D NIETUPSKI J

NH ADOLESCENTS TCHING PLAYGROUND SKILLS TO HR PEER:TOWA RD A LR MIDDLE SCHOOL ENVIR  
ED & TRAINING OF THE HR 1981 16 0 270-273  
INPUT: CHILD CHARACTERISTICS  
PROCESS: PEER BEHAVIOR  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HANDCP: NH/SH  
DESIGN: MULTI-BASELINE DESIGN DEP VARBL:  
ATE BEHAV/DECREASE INAPPROPRIATE BEHAV W/ HANDCP & NH

COMMENTS: DEP VAR-INCREASE APPROPRI

DOWNING C

THE THR CLASS THE THE OPEN SPACE SCHOOL  
ETHR 1978 13 0 64-66  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
SPACE SCHOOL ON INTEGRATION OF THR CHILDREN INTO ELEMENTARY SCHOOL

COMMENTS: REPORT ON IMPACT OF OPEN

384

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DUNN L

SPECIAL EDUCATION FOR THE MILDLY RETARDED-IS MUCH OF IT JUSTIFIABLE?  
EXCEPTIONAL CHILDREN 1968 35 1 5-22

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

PROPORTION OF SPECIAL ED IS OBSOLETE AND UNJUSTIFIABLE FROM POINT OF VIEW OF PUPILS SO PLACED.

ELLETT C WALBERG H

PRINCIPALS' COMPETENCY, ENVIRONMENT, AND OUTCOMES  
(IN BOOK) 1979 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: EXPERIMENTAL DEP VARBL: OUTCOME MEASURES

ENVIRONMENTS AND EFFECTS IND VAR: SCHOOL SURVEY & LEI AGE: ALSO INCLUDES SCNDY COMMENTS: BOOK TITLE: EDUCATIONAL

ELLISON T TRICKETT E

ENVIRONMENTAL STRUCTURE/ PERCEIVED SIMILARITY-SATISFACT RELATIONSHIP

JOURNAL OF PERSONALITY 1978 46 0 57-71

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HANDCP: NH

DESIGN: CORRELATIONAL DEP VARBL: QUESTIONNAIRE

RESULT: SIMILARITY-SATISFACTION RELATIONSHIP HOLDS TRADITIONAL SCHOOLS/ALTERNATIVE SCHOOLS-DIFFERENT TOLE RELATIONSHIPS COMMENTS: IND VAR - SCHOOL SETTING

FRIGHT R BUTTERFIELD B

TREATING THE REGULAR CLASS CHILD IN THE MAINSTREAM: PROCESS: INCREASING SOCIAL-COGN  
PSYCHOLOGY IN THE SCHOOLS 1979 16 0 110-118

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

DONE IN SOCIAL-COGNITIVE DEVL P APPLIES STUDY TO MAINSTR. LOOK AT CHANGING BEHAV OF NH CHILD COMMENTS: LOOKS AT EMPIRICAL STUDY

SPPOSITO D

HOMO & HETERO ABIL GRP: PR INCPL FIND & IMPLIC FOR EVAL & DESIGN MORE EFFECTIVE ED ENVIRN  
REVIEW OF ED RESEARCH 1973 43 0 163-179

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

PRINCIPAL FINDINGS OF ABILITY GROUPING RESEARCH COMMENTS: DISCUSSES AND REINTERPRET

300

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## FIRESTONE G BRODY N

LONGITUDINAL INVESTIGATION OF TCHR/STUDENT INTERACTIONS & REL ATNSHIP TO ACADEMIC PERFORMANCE  
JOURNAL OF ED PSYCHOLOGY 1975 67 0 544-550

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOME

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: CHILD ACADEMIC PERFORMANCE COMMENTS: IND VAR-TEACHER/STUDENT  
AGE: INCLUDES ADULT

## FISHER C BERLIN ER D FILBY N

HARLIAVE R CAHEN L DISHAU

TEACHING BEHAVIORS, ACADEMIC LEARNING TIME, & STUDENT

TIME TO LEARN

1980 0 0

ACHIEVEMENT: AN OVERVIEW

INPUT:

PROCESS: DIRECT TCHNG/TCHR BEHAV

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: ACHIEVEMENT TESTS, ETC. COMMENTS: IND VAR-ALT. TEACHER BEHAV

DEP VAR-STUDENT ATTITUDE SCALE/TEACHER LOGS

## FLANDERS N HAVUMAKI S

EFFECT OF TEACHER/PUPIL

CONTACTS INVOLVING PRAISE ON SOCIO-METRIC CHOICES OF STUDENTS

JOURNAL OF ED PSYCHOLOGY

1960 51 0 65-68

INPUT:

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: SCNDY HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: STUDENT CHOICE VALUE

COMMENTS: IND VAR-TEACHER BEHAVIOR

## FLYNN T

RATINGS OF MENTALLY HNDGP STUDENTS BY EMPIRICAL REGULAR & SPECIAL TEACHERS

EXCEPTIONAL CHILDREN

1978 44 0 539-540

INPUT: TCHR CHARAC/ATTITUDES

PROCESS: TCHR RATINGS

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: Y AGE: ADULT HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TEACHER RATINGS

COMMENTS: IND VAR-OBSERVATION OF

EMR STUDENT

## FOLEY J

EFFECT OF LABELING AND

TEACHER BEHAVIOR ON CHILDREN'S ATTITUDES

AJHD

1979 83 0 380-384

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: PEER ACCEPTANCE RATINGS

COMMENTS: IND VAR-TEACHER BEHAVIOR.

LABEL (MR, LD, NRHL)

FORNESS S EBVELDT K

CLASSROOM OBSERVATION OF CHILDREN W/ LEARNING AND BEHAV PROBLEMS  
J OF LEARNING DISABILITIES 1975 8 0 382-385

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER INTERACTIONS

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDGP: LH

DESIGN: QUASI-EXP-CONTROL GROUP

DEP VARBL: DIRECT OBSERVATION

EMS/ CHILD CHARACTERISTICS

COMMENTS: IND VAR-SEVERITY OF PROBL

FORNESS S CUTHRIE D ET AL

HACHILLAN D

CLASSROOM ENVIRONMENTS AS THEY RELATE TO MR CHILDREN'S O BSERVABLE BEHAVIOR  
AJHD 1982 87 0 259-265

INPUT:

PROCESS: SETTING CHARACTERISTICS

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HNDGP: LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: CES/OBSERVATION SCALES

COMMENTS: IND VAR: CLASSROOM ENVIRN

FORNESS S SILVERSTEIN A ET AL CUTHRIE D

RELATIONSHIP BETWEEN CLASSROOM BEHAVIOR AND ACHIEVE HENT OF MENTALLY RETARDED CHL  
AJHD 1979 84 0 260-265

INPUT:

PROCESS: TCHR BEHAV/CHILD BEHAV

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HNDGP: LH

DESIGN: DEP VARBL: STANDARIZED TEST SCORES  
BETWEEN TEACHER RESPONSE AND ACHIEVEMENT - MORE SUBJ DATA

COMMENTS: SIGN. NEGATIVE RELATION

FOSTER G KEECH V

TEACHER REACTIONS TO THE LABEL OF EDUCABLE MENTALLY RETARDED  
ETHR 1977 12 0 307-311

INPUT: LABEL/TCHR ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL:

AGE: ADULT HNDGP:

DESIGN: EMPIRICAL/EXPERIMENTAL

DEP VARBL: PERSONALITY QUESTIONNAIRE COMMENTS: IND VAR-NORMAL VS EMP

LABEL

FOSTER G SALVIA J

TEACHER RESPONSE TO LABEL OF LD AS FUNCTION OF DEMAND CH ARACTERISTICS  
EXCEPTIONAL CHILDREN 1977 43 0 533-534

INPUT: LABEL/TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL:

AGE: ADULT OCP:

DESIGN: EMPIRICAL/EXPERIMENTAL

DEP VARBL: TEACHER ATTRIBUTIONS

COMMENTS: IND VAR: NORMAL VS LD LBL

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LRE ABSTRACTS

FOSTER C SCHMIDT C SABATINO D

TEACHER EXPECTANCIES AND THE LABEL "LEARNING DISABILITY" ES"  
JRNL OF LEARNING DISABILITY 1976 9 0 111-114  
INPUT: LABEL/TEACHER ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: TEACHER RATING  
LABEL

COMMENTS: IND VAR-NORMAL OR LD

FRANKOSKY R SULZER-AZAROFF B

INDIVIDUAL & GROUP CONTINGENCIES & COLLATERAL SOCIAL BEHAVIORS  
BEHAVIOR THERAPY 1978 9 0 313-327  
INPUT: SETTING CHARACTERISTICS  
PROCESS: PEER BEHAVIOR  
PRODUCT: CHILD OUTCOMES  
REGULAR: RESOURCE: SPECIAL: Y AGE: ADULT HNDCP: SH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: PEER SOCIAL BEHAV ETC  
CONDITION DEP VAR-PERFORMANCE ON TASK

COMMENTS: IND VAR-TYPE OF REWARD

FREDERIKSEN M

TOWARD A TAXONOMY OF SITUATIONS  
AMERICAN PSYCHOLOGIST 1972 27 0 114-123  
INPUT:

PROCESS:  
PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NONEMPIRICAL DEP VARBL:

P VARIABLES--PREDICTS BEHAV & FACT THAT P CHARAC CAN'T PREDIC BEHAV OF SINGLE S UNLESS MEASURED ON MANY OCCASIONS

FREEMAN B ALGOZZINE B

SOCIAL ACCEPTABILITY AS A FUNCTION OF LABELS & ASSIGNED ATTRIBUTES  
AMERICAN JRNL MENTAL DEFENCY 1980 84 0 589-595  
INPUT: CHILD CHARACTERISTICS

PROCESS:

PRODUCT: CHILD ATTITUDE

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: QUESTIONNAIRE  
NORMAL) ATTRIBUTES(POSITIVE, NEUTRAL) TRIAL(OCCASION)

COMMENTS: IND VAR-LABEL(ED.LD.HR.

FRITH C LINDSEY J

EFFECTS OF INSERVICE TRAINING ON REGULAR EDUCATOR'S ATTITUDES TOWARD HNDCP STUDENTS  
EDUCATION UNLIMITED 1981 3 0 29-31  
INPUT: TEACHER CHARACTERISTICS

PROCESS: INSERVICE TRAINING

PRODUCT: TEACHER ATTITUDES

REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
DESIGN: EXPERIMENTAL DEP VARBL: ATTITUDE SCALE SCORE  
PERIENCE

COMMENTS: IND VAR--SEX,INSERVICE EX

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FRITH C MITCHELL J

ATTITUDES OF NONHANDICAP STUDENTS TOWARD MR: A CONSIDERATION IN PLACEMENT DECISIONS  
ED AND TRAINING OF MR 1981 16 0 79-82

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
PERSPECTIVES OF NONHANDICAPPED STUDENTS TOWARD THEIR MILDLY RETARDED PEERS COMMENTS: REVIEW OF LITERATURE OF

GAMPEL D COTTLEB J HARRISON R

COMPARISON OF CLASS BEHAV OF SPECIAL-CLASS EMR. INTEGRATE EMR. LOW IQ. & NONRETARDED CHILD  
AMERICAN JRNAL/MENTAL DEFENCY 1974 79 0 16-22

INPUT: CHILD CHARACTERISTICS  
PROCESS: CHILD BEHAVIOR  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: Y AGE: HANDICAP: NH/LH  
DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: 12 BEHAVIOR CATEGORIES COMMENTS: IND VAR- GROUP

GETTINGER H WHITE H

WHICH IS STRONGER CORRELATE OF SCHOOL LEARNING: TIME TO LEARN OR MEASURED INTELLIGENCE  
JOURNAL OF ED PSYCHOLOGY 1979 71 0 405-412

INPUT: CHILD CHARACTERISTICS  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACHIEVEMENT TESTS COMMENTS: IND VAR-TIME TO LEARN. IQ

GICKLING E THEOBALD J

MAINSTREAMING: AFFECT OR EFFECT  
JOURNAL OF SPECIAL EDUCATION 1975 9 0 317-328

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:  
DESIGN: DEP VARBL: COMMENTS:

GILLUNG T RUCKER C

LABELS AND TEACHER EXPECTATIONS  
EXCEPTIONAL CHILDREN 1977 43 0 464-465

INPUT: LABEL/TEACHER CHARACTERISTICS/TEACHER ATT  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDICAP:  
DESIGN: EMPIRICAL/QUASI-EXPER DEP VARBL: CHOICES ON RCEP INVENTORY COMMENTS: IND VAR-LABEL. REC VS SP  
ED TEACHER, YEARS EXPERIENCE W/ MAINSTR HANDICAP. URBAN VS SUBURBAN TEACHER

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GOLDBERG M L

PASSON, A JUSTHAN J

THE EFFECTS OF ABILITY

GROUPING

TEACHERS COLLEGE PRESS

1966 0 0

INPUT: CHILD CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: ACADEMIC ACHIEVEMENT ETC. COMMENTS: IND VAR-ABILITY LEVEL

DEP VAR-ACHIEVEMENT/ATTITUDES

GOOD T BECKERMAN T

TIME ON TASK: NATURALISTIC STUDY IN SIXTH GRADE CLASSROOM

ELEMENTARY SCHOOL JOURNAL 1977 78 0 193-201

INPUT: CHILD CHARACTERISTICS

PROCESS: CHILD BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: OBSERVATIONS. ETC.

COMMENTS: IND VAR-TIME ON TASK

DEP VAR-TEACHER RATINGS OF

ACHIEVEMENT

JRNL YEAR: 1977/78

GOOD T BROPHY J

BEHAVIORAL EXPRESSION

OF TEACHER ATTITUDES

JRNL OF EDUC PSYCHOLOGY

1972 63 0 617-624

INPUT: TEACHER ATTITUDE

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ADULT HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-TEACHER ATTITUDE.

STUDENT RACE, SES

GOOD T COOPER H BLAKELY S

CLASSROOM INTERACTION AS FUNCTION OF TCHR EXPECTATIONS, STDNT SEX, &amp; TIME OF YEAR

JRNL OF EDUC PSYCHOLOGY 1980 72 0 378-385

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-SEX, ACH LEVEL, TI

ME OF YEAR

AGE: INCLUDES ADULT

GOOD T EBMEIER H BECKERMAN T

TEACHING MATHEMATICS IN HIGH AND LOW SES CLASSROOMS: AN EMPIRICAL COMPARISON

RESEARCH IN TEACHER ED 1978 29 0 85-90

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ADULT HNDGP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TCHR BEHAV, ACHIEVEMENT

COMMENTS: IND VAR-CHILD SES

GOOD T SIKES J BROPHY J

EFFECTS OF TEACHER SEX AND STUDENT SEX ON CLASSROOM INTERACTION  
JOURNAL OF EDUC PSYCHOLOGY 1973 63 0 74-87

INPUT: TCHR/CHILD CHARACTERISTIC

PROCESS: TCHR/CHILD BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR

LEVEL AGE: INCLUDES ADULT

COMMENTS: IND VAR-SEX.ACHIEVEMENT

GOODMAN L MILLER H

MAINSTREAMING: HOW TEACHER CAN MAKE IT WORK

J OF RESEARCH/DEVELOP/EDUCAT 1980 13 0 45-57

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

S FOR INTEGRATING MILD TO MODERATE STUDENTS

COMMENTS: DEALS W/ PRACTICAL FACTOR

GOTTLIEB J

ATTITUDES OF NORWEGIAN CHILDREN TOWARD MR IN RELATION TO SEX & SITUATIONAL CONTEXT  
AJND 1971 75 0 635-639

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE SCALE

AGE: INCLUDES SCNDY

COMMENTS: IND VAR-SEX.SITUATION

GOTTLIEB J

ATTITUDES TOWARD RETARDED CHILDREN: EFFECTS OF LABELING AND ACADEMIC PERFORMANCE  
AMERICAN JRNL/MENTAL DEFNCY 1974 79 0 268-273

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIAL DISTANCE SCALE

AS SPELLER

DEP VAR-ADJECTIVE CHECKLIST

COMMENTS: IND VAR-LABEL.COMPETENCE

GOTTLIEB J

ATTITUDES TOWARD RETARDED CHILDREN: EFFECTS OF LABELING AND BEHAVIORAL AGGRESSIVENESS  
J OF EDUCATIONAL PSYCHOLOGY 1975 67 0 581-585

INPUT: CHILD ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: EXP DEP VARBL: SOCIAL DISTANCE SCALE

BEHAVIOR COMMENTS: IND VAR - LABEL. CHILD

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## GOTTLIEB J

PUBLIC.PEER.& PROFESSIONAL ATTITUDES TOWARD MR PERSONS  
BOOK 1975 0 2

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

ATTITUDES TOWARD THE MENTALLY RETARDED

COMMENTS: DISCUSSION OF RESEARCH ON  
BOOK TITLE: THE MR & SOCIETY: A SOCIAL SCIENCE PERSPECTIVE

## GOTTLIEB J

IMPROVING ATTITUDES TOWARD MR CHILDREN USING GROUP DISCUSSION  
EXCEPTIONAL CHILDREN 1983 47 0 106-111

INPUT: CHILD CHARACTERISTICS

PROCESS: INDIRECT TEACHING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: EXP-RANDOM ASSIGN DEP VARBL: QUESTIONNAIRE

TOWARD MR: SOCIOMETRIC POSITION IN CLASS

COMMENTS: IND VAR-INITIAL ATTITUDE

## GOTTLIEB J BUDOFF M

SOCIAL ACCEPTABILITY OF MR CHILDREN IN NONGRADED SCHOOLS DIFFERING IN ARCHITECTURE  
AJHD 1973 78 0 15-19

INPUT: CHILD/SETTING CHARAC/ATTIT

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH/LH

DESIGN: EXPERIMENTAL DEP VARBL: FORCED CHOICE SOCIOMETRIC COMMENTS: IND VAR-SCHOOL TYPE,SEX, GROUP

## GOTTLIEB J DAVIS J

SOCIAL ACCEPTANCE OF MR CHILDREN DURING OVERT BEHAVIORAL INTERACTIONS  
AMERICAN JOURNAL/MENTAL DEFICENCY 1973 78 0 141-143

INPUT: CHILD CHARAC/ATTITUDES

PROCESS: CHILD BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: EMPIRICAL/QUASI-EXPERIMENTAL DEP VARBL: SOCIOMETRIC EVALUATION COMMENTS: IND VAR-3 EXPERIMENTAL TREATMENTS(NON-EHR/SEGREGATED EHR, NON-EHR/INTEGRATED-EHR, SEGREGATED-EHR/INTEGRATED-EHR)

## GOTTLIEB J GOTTLIEB B

STEREOTYPIC ATTITUDES AND BEHAVIORAL INTENTIONS TOWARD HANDICAPPED CHILDREN  
AMERICAN JOURNAL/MENTAL DEFICENCY 1977 82 0 65-71

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: SCHDY HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ADJECTIVE CHECKLIST COMMENTS: IND VAR-SEX, HANDICAPPING CONDITION DEP VAR-SOCIAL DISTANCE QUESTIONNAIRE

GOTTLIB J SEMMEL H VELDMAN D

CORRELATES OF SOCIAL STATUS AMONG MAINSTREAMED

MENTALLY RETARDED CHILDREN

JRNL OF EDUCATIONAL PSYCH 1978 70 0 396-403

INPUT: PEER/TEACHER ATTITUDES

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: LH

DESIGN: QUASI-EXPERIMENTAL DEP VARIABLE: SOCIOMETRIC SCALE

COMMENTS: IND VAR-PEERS'/TEACHERS'

PERCEPTIONS OF COGNITIVE ABILITY &amp; DESCRIPTIVE BEHAVIOR HOURS OF INTEGRATION

GOTTLIB J SIPERSTEIN G

ATTITUDES TOWARD MENTALLY RETARDED PERSONS: EFFECTS OF

ATTITUDE REFERENT SPECIFICITY

AMERICAN JRNL/MENTAL DEFICIENCY 1976 80 0 376-381

INPUT: LABELS/TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDICAP: SH

DESIGN: EMPIRICAL DEP VARIABLE: QUESTIONNAIRES

COMMENTS: IND VAR-SEVERITY OF MR.

AGE

GOTTLIB J SWITZKY H

DEVELOPMENT OF SCHOOL-AGE CHILDREN'S STEREOTYPIC ATTITUDES TOWARD MR CHILDREN

AMERICAN JRNL/MENTAL DEFICIENCY 1982 86 0 596-600

INPUT: CHILD CHARACTERISTICS/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARIABLE: ADJECTIVE CHECKLIST

COMMENTS: IND VAR-GRADE

GUERIN G

REGULAR TEACHER CONCERNS WITH MAINSTREAMED LEARNING

HANDICAPPED

PSYCHOLOGY IN THE SCHOOLS 1979 16 0 543-545

INPUT: TEACHER CHARACTERISTICS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TEACHER HANDICAP:

DESIGN: FACTOR ANALYSIS DEP VARIABLE: ATTITUDE SCALE

COMMENTS:

GURALNICK H

SOCIAL INTERACTIONS AMONG PRESCHOOL CHILDREN

EXCEPTIONAL CHILDREN 1980 46 0 248-253

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: PSCHOOL HANDICAP: NH

DESIGN: EMPIRICAL DEP VARIABLE:

COMMENTS: IN-DEPTH ANALYSIS OF NATU

RE &amp; EXTENT OF SOCIAL INTERACTIONS AMONG PSCHOOL CHILDREN AT DIFFERENT DEVELOPMENTAL LEVELS

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GUSKIN S  
 RSCH ON LABEL MR PERSONS :WHERE DO WE GO FROM HERE?(REA CTION/HACHILLAN.JONES.& ALOIA)  
 AJHD 1974 79 0 262-264  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:

COMMENTS: DISCUSSION OF LABELING

HAISLEY F TELL C ANDREWS J  
 PEERS AS TUTORS IN THE MAINSTREAM:TRAINED "TEACHERS" OF HANDICAPPED ADOLESCENTS  
 J OF LD 1981 14 0 224-238  
 INPUT:  
 PROCESS: COOPERATIVE LEARNING  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH/LH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: OBSERVATION  
 TUTOR

COMMENTS: USES BEHAVIOR SAMPLING BY

HALPIN A CROFT D  
 THE ORGANIZATIONAL CLIMATE OF SCHOOLS  
 ADMINISTRATOR'S NOTEBOOK 1963 11 0 1-4  
 INPUT: SETTING CHARAC  
 PROCESS:  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: DESCRIPTIVE DEP VARBL: OCOO

COMMENTS: IND VAR: SCHOOLS

HAMHILL D  
 THE RESOURCE ROOM MODEL IN SPECIAL EDUCATION  
 JOURNAL OF SPECIAL EDUCATION 1972 6 0 349-354  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 RESOURCE RM PROGRAM:ITS USE INNONCATEGORICAL MANNER FOR STUDENT W/ MINIMAL LRNG PROBLEMS

COMMENTS: DISCUSSES BENEFITS OF

HANDLERS A AUSTIN K  
 IMPROVING ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD THEIR HANDICAPPED PEERS.  
 EXCEPTIONAL CHILDREN 1980 47 0 228-229  
 INPUT:  
 PROCESS: PEER BEHAVIOR  
 PRODUCT: ATTITUDE CHANGE  
 REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: QUESTIONNAIRE  
 NNAIRE USED

COMMENTS: NO DESCRIPTION OF QUESTIO

HARASMIU S HORNE M

TEACHER ATTITUDES TOWARD HANDICAPPED CHILDREN & REGULAR CLASS INTEGRATION  
J OF SPECIAL EDUCATION 1976 10 0 393-400

INPUT:

PROCESS: SUPPT SERV/INSERVICE

PRODUCT: TEACHER OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: EXPERIMENTAL-CONTROL GRP DEP VARBL: QUESTIONNAIRE

COMMENTS:

HARNISCHFEGER A

CURRICULAR CONTROL AND LEARNING TIME: DISTRICT POLICY. TEACHER STRATEGY. AND PUPIL  
ED EVAL & POLICY ANALYSIS 1979 2 0 19-30

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

OPINION PAPER-INTENT: SHOW HOW SIMPLE METHODOLOGY CAN AID THE PROCESS OF EFFECTIVE SCHOOLING

COMMENTS: CHOICE

HARTH R

PERSONALLY RELEVANT AND PERSONALLY IRRELEVANT ATTITUDE DIFFERENCE TOWARD EHR AND THR  
ETHR 1981 16 0 213-216

INPUT: LABEL/TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:

DESIGN: EXPERIMENTAL DEP VARBL: ATTITUDE ON HABHR

IND VAR - EHR/THR CATEGORIZA- TION

COMMENTS: CHILDREN

RESULTS-MEAN TOTAL SCORE HIGH ER FOR EHR/THR BUT NO DIFF FOR

HARTUP W GLAZER J ET AL

PEER REINFORCEMENT AND CHARLESWORTH R  
CHILD DEVELOPMENT SOCIOMETRIC STATUS  
1967 38 0 1017-24

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP: NH

DESIGN: EMPIRICAL DEP VARBL:

TANCE-REJECTION AS MEASURED BY SOCIOMETRIC CHOICES

COMMENTS: LOOKS AT SOCIAL ACCEP-

HAUSER C

EVALUATING MAINSTREAM PROGRAMS: CAPITALIZING ON A VICTORY  
JOURNAL OF SPECIAL EDUCATION 1979 13 0 107-129

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

ERATURE/DESCRIBES MODEL FOR IMPLEHENTING CHANGE W/IN ORGANIZATIONAL CONTEXTS

COMMENTS: ORGANIZATIONAL CHANGE LIT

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HAYES L

THE USE OF GROUP CONTINGENCIES FOR BEHAVIORAL CONTROL: A REVIEW  
 PSYCHOLOGICAL BULLETIN 1976 83 0 628-648  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 OUP CONTINGENCIES

COMMENTS: COMPARES INDIVIDUAL TO GR

HELLER H WHITE H

RATES OF TEACHER VERBAL APPROVAL & DISAPPROVAL TO HIGH & LOWER ABILITY CLASSES  
 JOURNAL OF EDUC PSYCHOLOGY 1975 67 0 796-800  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS: TEACHER BEHAVIOR  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HANDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR  
 TICS

COMMENTS: IND VAR-CHILD CHARACTERIS

HERDA E

ASPECTS OF GENERAL EDUCATION GOVERNANCE & PL 94-142 IMPLEMENTATION  
 FOCUS ON EXCEPTIONAL CHILDREN 1980 12 0  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 ON EDUCATIONAL SYSTEM AND SHIFTS IN GENERAL EDUCATION ADMINISTRATION SINCE THE ADVENT OF 94-142

COMMENTS: DISCUSSES SOCIAL DEMANDS

HERMAN S TRAMONTANA J

INSTRUCTIONS & GROUP VS INDIVIDUAL REINFORCEMENT/MODIFYING DISRUPTIVE GROUP BEHAVIOR  
 JRNL/APPLIED BEHAV ANALYSIS 1971 4 0 113-119  
 INPUT: SETTING CHARACTERISTICS  
 PROCESS: CHILD BEHAVIOR  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: OBSERVATIONS OF BEHAVIOR  
 VS INDIVIDUAL REINFORCEMENT

COMMENTS: IND VAR-INSTRUCTIONS.GRP

HERMANN R

CLASSROOM STATUS & TEACHER APPROVAL & DISAPPROVAL-STUDY OF CHILDREN'S PERCEPTIONS  
 JOURNAL/EXPERIMENTAL ED 1972 41 0 32-39  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS:  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: CHILD SOCIO-METRIC CHOICE  
 DISAPPROVAL

COMMENTS: IND VAR-TEACHER APPROVAL/

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HORNE H

ATTITUDES & MAINSTREAMING : A LITERATURE REVIEW FOR SCHL PSYCHOLOGISTS  
PSYCHOLOGY IN THE SCHOOLS 1979 16 0 61-67

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
LITERATURE

COMMENTS: REVIEW OF ATTITUDINAL

HUNT D

PERSON-ENVIRON INTERACTN: A CHALLENGE FOUND WANTING BEFO RE IT WAS TRIED  
REVIEW EDUCATIONAL RESEARCH 1975 45 0 209-230

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NONEMPIRICAL DEP VARBL:  
FOLLOW-UP TO ATI PROGRAM

COMMENTS: CITES LACK OF THOROUGH

HUNTER P ZUGER R

EASING TRANSITION FRM SCH OOL TO WORK FR STONT W/ SEVERE PHYS DISAB: SUMMER WORK EXPERNC  
REHABILITATION LITERATURE 1979 40 0 298-304

INPUT:  
PROCESS: LEARNING ARRANGEMENTS  
PRODUCT: CHILD OUTCOMES  
REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: BH  
DESIGN: DEP VARBL: QUESTIONNAIRE

COMMENTS:

HUTTON J POLO L

A SOCIO-METRIC STUDY OF LEARNING DISABILITY CHILDREN AND TYPE OF TEACHING STRATEGY  
(SEE COMMENTS) 1976 29 0 113-120

INPUT: CHILD CHARAC/ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEH HNDCP: NH/LH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIO-METRIC MEASURE COMMENTS: IND VAR-LO/NON-LO.TCHNG  
STRATEGY USED JOURNAL: GROUP PSYCHOTHERAPY. PSYCHODRAMA AND SOCIO-METRY

IANO R AYERS D HELLER H ET AL MCGETTIGAN J WALKER V

SOCIO-METRIC STATUS OF RETARDED CHILDREN IN AN INTE- GRATIVE PROGRAM  
EXCEPTIONAL CHILDREN 1974 40 0 267-271

INPUT: CHILD CHARAC/ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: Y SPECIAL: Y AGE: ELEH HNDCP: NH/LH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIO-METRIC MEASURE  
CHILDREN.RESOURCE ROOM REFER- RALS

COMMENTS: IND VAR-REG CLASS.ENR

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ITO R

LONG TERM EFFECTS OF RESOURCE ROOM PROGRAMS ON LEARNING DISABLED CHILDREN'S READING  
J OF LEARNING DISABILITIES 1980 13 0 36-40

INPUT:

PROCESS: LEARNING ARRANGEMENTS

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: Y SPECIAL:

DESIGN: EXP

AGE: ELEM HNDCP: LH

DEP VARBL: RDING ACH SCORES

COMMENTS:

J

INPUT:

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HNDCP:

DESIGN:

DEP VARBL:

COMMENTS:

JACKSON J

TOWARD COMPARATIVE STUDY OF MENTAL HOSPITALS: CHARAC OF TREATMENT ENVIRONMENT  
(IN BOOK) 1964 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HNDCP:

DESIGN: NONEMPIRICAL,

DEP VARBL:

SPITAL AS A SOCIAL SYSTEM

(A WEBBON, ED.)

COMMENTS: BOOK TITLE: PSYCHIATRIC HO  
DESCRIBES DEVELOPMT OF CTE INSTRUMENT

JACKSON J

FACTORS OF THE TREATMENT ENVIRONMENT

ARCHIVES OF GENERAL PSYCHIA 1969 21 0 39-45

INPUT:

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HNDCP:

DESIGN: NONEMPIRICAL

DEP VARBL:

CTE INSTRUMENT

COMMENTS: DESCRIBES REANALYSIS OF

JACKSON J COSCA C

INEQUALITY OF ED OPPORTUNITY IN SOUTHWEST: OBSERV STUDY OF ETHNICALLY MIXED CLASSROOMS  
AMERICAN ED RESEARCH JRNAL 1974 11 0 219-229

INPUT: CHILD/TCHR CHARACTERISTIC

PROCESS: TCHR BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE:

SPECIAL:

AGE: ADULT HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: CHILD/TCHR BEHAVIOR

LD CHARAC

AGE: INCLUDES ELEM &amp; SCNDY

COMMENTS: IND VAR-RACE, SEX, TCHR/CHI

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JAMES F SPENCER D HAMILTON M

IMMEDIATE EFFECTS OF IMPROVED HOSP ENVIRON ON BEHAV PAT TERMS OF MENTAL HANDICAP PATIENTS  
BRITISH JRNAL OF PSYCHIATRY 1975 126 0 577-581

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:

DESIGN: NONEMPIRICAL DEP VARBL:

COMMENTS: CORRELATIONAL DATA ONLY

JOHNSON A CARTWRIGHT C

THE ROLES OF INFORMATION & EXPERIENCE IN IMPROVING TCHR 'S ATTITUDES ABOUT MAINSTR  
THE J OF SPECIAL EDUCATION 1979 13 0 453-462

INPUT:

PROCESS: PRESERVICE TRAINING

PRODUCT: TEACHER OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HANDICAP:

DESIGN: EXP-CONTROL GRP DEP VARBL: ATTITUDE SCALE

COMMENTS:

JOHNSON D JOHNSON R

COOPERATIVE, COMPETITIVE, AND INDIVIDUALISTIC LEARNING  
JRNAL RESEARCH/DVPHT IN ED 1978 12 0 3-15

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:

DESIGN: NON-EMPIRICAL DEP VARBL:

COMMENTS: REVIEW OF RESEARCH ON

JOHNSON D JOHNSON R

INTEGRATING HANDICAPPED STUDENTS INTO THE MAINSTREAM  
EXCEPTIONAL CHILDREN 1980 47 0 90-98

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDICAP:

DESIGN: NON-EMPIRICAL DEP VARBL:

COMMENTS: COOP GOAL STRUCTURING

JOHNSON D JOHNSON R ANDERSON D

STUDENT COOP, COMPET, & INDIV ATTITUDES, & ATTITUDES TOWARD SCHOOLING  
THE JOURNAL OF PSYCHOLOGY 1978 100 0 183-199

INPUT: PEER ATTITUDES

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH

DESIGN: DESCRIPTIVE DEP VARBL: ACHIEVEMENT SCORE

/URBAN/SUBURBAN

DEP VAR-MINN SCHL AFFECT ASSESAGE: INCLUDES SCNDY

COMMENTS: IND VAR-GRADE LEVEL, RURAL

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LRE ABSTRACTS

JOHNSON D JOHNSON R ET AL  
EFFECTS OF COOP VS INDIV  
JRNL OF ED PSYCHOLOGY  
INPUT:  
PROCESS: COOP LEARNING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH  
DESIGN: EXPERIMENTAL  
ARRANGEMENTS  
JOHNSON J ANDERSON D  
INSTRUC ON STDNT PROSOCIAL BEH AV. ATTITUDES TO LRNG & ACHIEV  
1976 68 0 446-452  
DEP VARBL: ATT QUESTIONNAIRE.ACH TST COMMENTS: IND VAR-COOP/INDIV LRNG

JOHNSON D JOHNSON R SCOTT L  
EFFECT OF COOP & INDIV IN STRUC ON STUDENT ATTITUDES & ACHIEVEMENT  
JRNL OF SOCIAL PSYCHOLOGY 1978 104 0 207-216  
INPUT: CHILD CHARACTERISTICS  
PROCESS: COOP LEARNING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH  
DESIGN: QUASI-EXPERIMENTAL  
DEP VARBL: SOCIOGRAM

COMMENTS: IND VAR-SEX.COAL STRUCTUR

JOHNSON D HARUYAMA J ET AL  
EFFECTS OF COOP, COMPET,  
PSYCHOLOGICAL BULLETIN  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:  
DESIGN: NON-EMPIRICAL  
DIFFERENT METHODS OF GOAL STRUCTURING  
JOHNSON R NELSON D SKON L  
INDIV GOAL STRUCTURES ON ACHI EVEHENT  
1981 89 0 47-62  
DEP VARBL:

COMMENTS: A META-ANALYSIS REVIEW OF

JOHNSON G  
A STUDY OF THE SOCIAL POSITION OF MENTALLY HNDGP CHI LDREN IN REGULAR GRADES  
AMERICAN JRNL MENTAL DFCNCY 1950 35 1 60-89  
INPUT: CHILD CHARACTERISTICS  
PROCESS:  
PRODUCT: CHILD ATTITUDES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH  
DESIGN: QUASI-EXPERIMENTAL  
DEP VARBL: SOCIOMETRIC MEASURE

COMMENTS: IND VAR-CHILD CHARAC

JOHNSON R JOHNSON D  
EFFECTS OF COOP & COMPET LRNG EXPERNC ON INTERPERSONL A TTRACTN BETW HNDGP & NH STDNTS  
JOURNAL OF SOCIAL PSYCHOLOGY 1982 116 0 211-219  
INPUT: CHILD CHARACTERISTICS  
PROCESS: PEER BEHAV/COOP. LEARNING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: LH  
DESIGN: EXPERIMENTAL  
DEP VARBL: FREE TIME OBSERVATION ETC COMMENTS: IND VAR-COOP/COMPET GROUP  
DEP VAR-SOCIOMETRIC HELP,COOP,INDIVID & COHESION SCALE

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JOHNSON R RYNDERS J JOHNSON D SCHMIDT B HAIDER S  
 INTERACTN BETW HNDCP & NH TEENS AS FUNCTN OF SITUATNL CO AL STRUC:IMPLICATN FOR MAINSTR  
 AMERICAN ED RESEARCH JRNL 1979 16 0 161-167  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS: COOP LEARNING  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: SCHDY HNDCP: NH/SH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: FREQUENCY OF INTERACTIONS COMMENTS: IND VAR-DIFFERENT COAL  
 STRUCTURES

JONES R  
 HEIRARCHICAL STRUCTURE OF ATTITUDES TOWARD EXCEPTIONAL  
 EXCEPTIONAL CHILDREN 1974 40 0 430-435  
 INPUT: LABEL/TEACHER ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
 DESIGN: EMPIRICAL DEP VARBL: SOCIAL DISTANCE QUESTNNRS COMMENTS: IND VAR-CHILD CHARAC

JONES T SOWELL V JONES J ET AL BUTTER L  
 CHANGING CHILDREN'S PERCE PTIONS OF HANDICAPPED PEOPLE.  
 EXCEPTIONAL CHILDREN 1981 47 0 365-368  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS: DIRECT TEACHING  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: EXP-RAND ASSIGN/PRE/POST DEP VARBL: QUESTIONNAIRE COMMENTS: IND VAR-EXPOSURE TO DIREC  
 T TEACHING

JOSE J CODY J  
 TCHR-PUPL INTERACTN AS RE LATE TO ATTEMPT CHANGES IN TCH R EXPCTNCY OF ACAD ABIL/ACHIEV  
 AM ED R J 1971 8 0 39-49  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS: TEACHER BEHAVIOR  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HNDCP: NH  
 DESIGN: EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR COMMENTS: IND VAR-CHILD ABILITY LVL

KARWEIT N BLAVIN R  
 MEASUREMENT AND MODELING CHOICES IN STUDIES OF TIME AND LEARNING  
 AMERICAN ED RESEARCH JRNL 1981 18 0 157-171  
 INPUT:  
 PROCESS: DIRECT TEACHING  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACHIEVEMENT TESTS ETC. COMMENTS: IND VAR-TIME ON TASK.TIME  
 USE DEP VAR-STUDENT QUESTIONNAIRE,CLASSROOM OBSERVATIONS

LRE ABSTRACTS

KATZ P KATZ I COHEN S

WHITE CHILDREN'S ATTITUDE TOWARD BLACKS & PHYSICALLY HANDICAPPED: A DEVELOPMENTAL STUDY

JRNL OF EDUCATIONAL PSYCH 1976 68 0 20-24

INPUT: CHILD/ADULT CHARAC

PROCESS: CHILD BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: EXPERIMENTAL

DEP VARBL: SOCIAL DISTANCE MSRE ETC COMMENTS: IND VAP-ROCE OF EXAMINER.

PRESENCE/ABSENCE OF HNDCP, AGE DEP VAR-IMITATION MEASURES, HELPING MEASURES

KAUFMAN H GOTTlieb J AGARD J KUKIC H

MAINSTREAMING TOWARD AN EXPLICATION OF THE CONSTRUCT

FOCUS ON EXCEPTIONAL CHILDREN 1975 7 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL

ATTEMPT TO DEFINE MAINSTREAMIN DEP VARBL:

COMMENTS: SYSTEMATIC ANALYTICAL

KEDAR-VORVODAS G TANNENBAUM A

TEACHERS' ATTITUDES TOWARD YOUNG DEVIANT CHILDREN

J OF ED PSYCH 1979 71 0 800-808

INPUT: TCHR CHARACTERISTICS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: ANOVA-3 WAY

DEP VARBL: ATTITUDE SCALE

COMMENTS:

KEILBAUGH W

ATTITUDES OF CLASSROOM TEACHERS TOWARD THEIR VISUALLY HANDICAPPED STUDENTS

VIS IMPAIRMENT & BLINDNESS 1977 71 0 430-434

INPUT: TEACHER CHARACTERISTICS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN:

DEP VARBL: QUESTIONNAIRE

COMMENTS:

KELLAM S SHELZER J BERMAN A

VARIATION IN THE ATMOSPHERE

ARCHIVES OF GENERAL PSYCHIA 1966 14 0 561-570

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NONEMPIRICAL

DEP VARBL:

COMMENTS: EARLY ATTEMPT TO QUANTIFY

ASPECT OF PSYCHIATRIC WARDS

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KENNEDY P BRUININKS R

SOCIAL STATUS OF HEARING IMPAIRED CHILDREN IN REGULAR CLASSROOMS  
EXCEPTIONAL CHILDREN 1974 40 0 336-342

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH/HI

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIOMETRIC TEST ETC

DEP VAR-PEER ACCEPTANCE SCALE, SOCIOEMPATHY MEASURE

COMMENTS: IND VAR-HI/NH

KENNON A SANDOVAL J

TEACHER ATTITUDES TOWARD THE EDUCABLE MENTALLY RETARDED  
EDUC & TRNG OF THE MEN RETRD 1970 13 0 139-145

INPUT: TEACHER CHARACTERISTICS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: ANOVA NESTED FACTORIAL DEP VARBL: ATTITUDE SCALE

COMMENTS:

KING R RAYNES N

AN OPERATIONAL MEASURE OF INMATE MANAGEMENT IN RESIDENTIAL INSTITUTIONS  
SOCIAL SCIENCE AND MEDICINE 1968 2 0 41-53

INPUT: SETTING CHARAC

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: DESCRIPTIVE DEP VARBL: IMS

RESIDENTIAL/INSTITUTIONAL PRACTICES

COMMENTS: IND VAR: 4-DIMENSIONS OF

KIRP D

STUDENT CLASSIFICATION, PUBLIC POLICY, AND THE COURTS  
HARVARD EDUCATIONAL REVIEW 1974 44 0 7-52

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

PRACTICES IN CONSTITUTIONAL TERMS

COMMENTS: EXAMINES CLASSIFICATION

KNIGHT G NELSON W

KAGAN S GUMBINER J

COOP COMPET SOCIAL ORIENT ATN & SCHL ACHIEV AMONG ANGLO- AMERICAN & MEXICAN-AMER CHILDN  
CONTEMPORARY ED PSYCHOLOGY 1982 7 0 97-106

INPUT: CHILD CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP:

DESIGN: QUASI-EXPERIMENTAL

SEX

DEP VARBL: SCHL ACH/SELF-ESTEEM MSRE COMMENTS: IND VAR-ETHNICITY.GRADE.  
DEP VAR-COOP/COMPET SOCIAL ORIENTATN MSRE.FIELD INDEPENDENCE MSRE

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KOCH H

POPULARITY IN PRESCHOOL CHILDREN: SOME RELATED FACTORS & TECHNIQUE FOR MEASUREMENT  
 CHILD DEVELOPMENT 1933 4 0 164-175  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: PSCHL HNDCP: NH  
 DESIGN: EMPIRICAL DEP VARBL:  
 LARITY/UNPOPULARITY AMONG PRE-SCHOOLERS

COMMENTS: DISCUSSES FACTORS OF POPU

LA PIERE R

ATTITUDES VS ACTIONS  
 SOCIAL FORCES 1934 13 0 230-237  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: EXPERIMENTAL DEP VARBL:  
 STUDY WHICH INDICATE THERE IS LITTLE RELATIONSHIP BETWEEN

COMMENTS: REPORTS THE RESULT OF A  
 VERBALLY EXPRESSED ATTITUDES AND OVERT BEHAVIOR

LARRIVEE B COOK L

MAINSTREAMING: A STUDY OF THE VARIABLES AFFECTING  
 J OF SPECIAL EDUCATION 1979 13 0 315-324  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:  
 DESIGN: QUASI-EXP DEP VARBL: QUESTIONNAIRE  
 INVENTORY FOR CHILDREN HAND/NA RATED THEMSELVES POST.

TEACHER ATTITUDE

COMMENTS: SCALE-PERSONAL ATTRIBUTE

LARSEN S

INFLUENCE OF TEACHER EXPERIENCES ON SCHOOL PERFORMANCE OF HANDICAPPED CHILDREN  
 FOCUS/EXCEPTIONAL CHILDREN 1975 6 0 1-14  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 ECTATIONS

COMMENTS: DISCUSSION OF TEACHER EXP

LAUGHLIN P

ABILITY AND GROUP PROBLEM SOLVING  
 JRNL RESEARCH/DVPHT IN ED 1978 12 0 114-120  
 INPUT: CHILD SETTING/CHARAC  
 PROCESS:  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TERMAN CONCEPT MASTY TEST  
 ABILITY LEVEL DPE VAR-TERMAN CONCEPT MASTERYTEST

COMMENTS: IND VAR-GROUP SIZE AND

LAURIE T BUCHWACH L ET AL SILVERMAN R ZIGMOND N  
TEACHING SECONDARY LEARN: NG DISABLED STUDENTS IN THE MA INSTREAN  
LD QUARTERLY 1978 1 0 62-72  
INPUT:  
PROCESS: INNOVATIVE PROGRAMS  
PRODUCT: CHILD OUTCOME/TCHR OUTCOM  
REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: LH  
DESIGN: DEP VARBL:

COMMENTS:

LEINHARDT G  
INSTRUCTIONAL TIME: A WIN GED CHARIOT?  
CONFERENCE 1981 0 0  
INPUT:  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: PRE/POST-ACHIEVEMENT TEST COMMENTS: IND VAR- ALT

LEINHARDT G ZIGMOND N COOLEY W  
READING INSTRUCTION AND ITS EFFECTS  
AERJ 1981 18 0 343-361  
INPUT:  
PROCESS: DIRECT/INDIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HNDCP: LD  
DESIGN: QUASI-EXP/PRE POST DEP VARBL: READING TEST SCORES  
BEHAVIORS/TCHR AFFECTIVE BEHAVIORS/TIME IN READING/PACING/OVERLAP COMMENTS: IND VAR-TCHR INSTRUCTIONL

LEYSER Y GOTTLIB J  
IMPROVING THE SOCIAL STATUS OF REJECTED PUPILS  
EXCEPTIONAL CHILDREN 1980 46 0 457-461  
INPUT: CHILD CHARACTERISTICS  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH/LH  
DESIGN: EXPERIMENTAL DEP VARBL: SOCIO-METRIC MEASURE  
2 HR WORKSHOP COMMENTS: IND VAR-PARTICIPATION IN

LILLY H  
IMPROVING SOCIAL ACCEPTANCE OF LOW SOCIO-METRIC STATUS, LOW ACHIEVING STUDENTS  
EXCEPTIONAL CHILDREN 1971 37 0 341-347  
INPUT: CHILD CHARACTERISTICS  
PROCESS: COOP LEARNING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIO-METRIC RATING CHANGE COMMENTS: IND VAR-EACH IND VAR  
ISOLATES ONE ASPECT OF INTERVENTION

LILLY H

A MERGER OF CATEGORIES: ARE WE FINALLY READY?  
J OF LEARNING DISABILITIES 1977 10 0 56-62  
INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

REINBURSEMENT SYSTEM WHICH WOULD ALLOW MOVEMENT TO NON- CATEGORICAL PROGRAMMING COMMENTS: OUTLINES PROGRAM FOR

LOMBARDI T

CHANGING INSTITUTIONAL STRUCTURES FOR EFFECTIVE  
ED AND TRAINING OF THE MR 1972 7 0 99-103

SPECIAL EDUCATION PROGRAMS

INPUT:

PROCESS: INSERVICE TRAINING

PRODUCT: TEACHER OUTCOMES

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDCP:

DESIGN: EXPERIMENTAL DEP VARBL: ATTITUDE INVENTORY

G FLEIGLER &amp; AHLERSMEYER(ED)

COMMENTS: IND VAR-INSERVICE TRAINING

LOMBARDI T MEADOWCROFT P ET AL STRASSBURGER R

MODIFYING TEACHER TRAINERS' ATTITUDES TOWARD  
EXCEPTIONAL CHILDREN 1982 48 0 544-545

MAINSTREAMING

INPUT:

PROCESS: INSERVICE TRAINING

PRODUCT: TEACHER OUTCOMES

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDCP:

DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: ATTITUDE SURVEY ETC

NG DEP VAR-INFORMATION INVENTORY

COMMENTS: IND VAR- INSERVICE TRAINING

LOWENTHAL B

EFFECT OF SMALL-GROUP INSTRUCTION ON LANGUAGE-DELAYED PRESCHOOLERS  
EXCEPTIONAL CHILDREN 1981 48 0 178-179

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL: Y AGE: PSCHL HANDCP: CH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: PPVT,PLS

GROUP INSTRUCTION DEP VAR-PLS(AUDITORY COMPREHENSION, VERBAL ABILITY, &amp; LANGUAGE AGE) COMMENTS: IND VAR-SMALL VS LARGE

LUCKER C ROSENFIELD D ET AL

BIKES J ARONSON E

PERFORMANCE IN INTERDEPENDENT CLASSROOM: A FIELD STUDY  
AMERICAN ED RESEARCH JNL 1976 13 0 115-123

INPUT: CHILD CHARACTERISTICS

PROCESS: COOPERATIVE LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: EXPERIMENTAL DEP VARBL: ACHIEVEMENT TEST

ETHNICITY,ABILITY LEVEL

COMMENTS: IND VAR-GROUP STRUCTURE.

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HAAS E MARECEK J TRAVERS J

CHILDREN'S CONCEPTIONS DISORDERED BEHAVIOR  
CHILD DEVELOPMENT 1978 49 0 146-154

INPUT: CHILD CHARAC/ATTRIBUTIONS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: QUESTIONNAIRE

COMMENTS: IND VAR-AGE.SEX

MACHILLAN D JONES R ALOIA G

THE MENTALLY RETARDED LABEL: A THEORETICAL ANALYSIS AND REVIEW OF RESEARCH  
AMERICAN JRNL MENTAL DEFENCY 1974 79 0 241-261

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EFFECTS

COMMENTS: REVIEW OF LABELING

MACHILLAN D JONES R MEYERS C

MAINSTREAMING THE MILDLY RETARDED: SOME QUESTIONS, CAUTIONS AND GUIDELINES  
MENTAL RETARDATION 1976 0 0 3-10

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EVALUATION OF MAINSTREAMING SUCCESS/CALIFORNIA EXPERIENCE/CAUTIONS ABOUT MAINSTREAMING

COMMENTS: GENERAL ARTICLE/DISCUSSES

MACHILLAN D MEYERS C YOSHIDA R

REGULAR CLASS TCHR PERCEPTIONS OF TRANSITION PROGRAM FOR EMR & THEIR IMPACT ON STUDENTS  
PSYCHOLOGY IN THE SCHOOLS 1978 15 0 99-103

INPUT: TCHR ATT/CHILD CHARACTER

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: EXP-RANDOM SELECTION DEP VARBL: QUESTIONNAIRE

COMMENTS:

MACHILLAN D SEHMEL M

EVALUATION OF MAINSTREAMING PROGRAMS  
FOCUS ON EXCEPT. CHILDREN 1977 9 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EVALUATING MAINSTREAMING PROGRAMS

COMMENTS: A PROPOSED METHOD FOR

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LRE ABSTRACTS

MARINOBLE R

COMMUNITY JOBS FOR HANDICAPPED STUDENTS: A CAREER EDUCATION TECHNIQUE  
THE VOCATIONAL GUIDANCE QURT 1980 0 0 172-177

INPUT:

PROCESS: LEARNING ARRANGEMENTS

PRODUCT:

REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: LH

DESIGN: NONEMPIRICAL DEP VARBL:

EXPERIENCE TO DEVELOP SOCIAL SKILLS

COMMENTS: DESCRIBES COMMUNITY WORK

MARLOWE H

GAMES-ANAL INTERVENTH: PROC EDURE INCREASE PEER ACCEPT & SOCIAL ADJUSTMT OF MR CHILD  
ETMR 1979 14 0 262-268

INPUT: CHILD ATTITUDES

PROCESS: CHILD BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH/LH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIOMETRIC STATUS.BEHAV COMMENTS:

MARSDEN C KATTER H

CHILDREN'S UNDERSTANDING OF THEIR EMOTIONALLY DISTURBED PEERS  
PSYCHIATRY 1976 39 0 227-238

INPUT: CHILD CHARAC/ATTRIBUTIONS

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: INTERVIEWS

COMMENTS: IND VAR-SEX.GRADE

MARTIN R

STUDENT SEX & BEHAVIOR AS DETERMINANTS OF TYPE & FREQUENCY OF TEACHER-STUDENT CONTACTS  
JOURNAL OF SCHOOL PSYCHOLOGY 1972 10 0 339-347

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR

VIOR AGE: INCLUDES ADULT

COMMENTS: IND VAR-STUDENT SEX. BEH

MARTINO L JOHNSON D

COOPERATIVE AND INDIVI- DUALISTIC EXPERIENCES AMONG DISABLED AND NORMAL CHILDREN  
JRNL OF SOCIAL PSYCHOLOGY 1979 107 0 177-183

INPUT: CHILD CHARACTERISTICS

PROCESS: COOP/IND GOAL STRUCTURING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH/LH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: FREQUENCY OF INTERACTIONS COMMENTS: IND VAR-COOP OR INDIV

GOAL STRUCTURING

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MAUER R

YOUNG CHILDREN'S RESPONSE TO A PHYSICALLY DISABLED STORY BOOK HERO  
EXCEPTIONAL CHILDREN 1979 43 0 326-330

INPUT: CHILD CHAR/ATTITUDES

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDCP: SH/NH

DESIGN: EXP-CONTROL GROUP

DEP VARBL: SOCIO-METRIC

COMMENTS: MORE SUBJECT INFO GIVEN

MCCAULEY R MORRIS P COOPER J

PLACEMENT OF HANDICAPPED CHILDREN BY CANADIAN SCHOOL PERSONNEL  
ETHR 1978 13 0 367-379

INPUT: TEACHER ATT/CHARACTERISTI

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: TCHR HNDCP:

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: QUESTIONNAIRE

ONAL PROGRAMMING SCALE TO MEASURE ATTITUDES

COMMENTS: USED RUCKER-GABLE EDUCATI

MCCORMICK H BALLA D ZIGLER E

RESIDENT-CARE PRACTICE IN INSTITUTION FOR MR PERSONS: CROSS- INSTIT. CROSS-CULTURAL STUDY  
AJHD 1975 80 0 1-17

INPUT: SETTING CHARAC

PROCESS:

PRODUCT: OUTCOMES

REGULAR: RESOURCE: SPECIAL:

AGE: HNDCP: SH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: CHI

ON, LEVEL OF RETARDATION

COMMENTS: IND VAR-SIZE OF INSTITUTI

MCDANIEL L

CHANGING VOCATIONAL TEACHERS' ATTITUDES TOWARD THE HANDICAPPED  
EXCEPTIONAL CHILDREN 1982 48 0 377-378

INPUT: TEACHER CHARACTERISTICS

PROCESS: INSERVICE TRAINING

PRODUCT: ATTITUDE CHANGE

REGULAR: RESOURCE: SPECIAL:

AGE: ADULT HNDCP:

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: SCORE ON ATTITUDE SCALE

(AGE, SEX, EDUC. BACKGROUND, # YEARS EXPER., LOCALITY)

COMMENTS: IND VAR-TEACHER VARIABLES

MCDERMOTT R ARON J

PIRANDELLO IN CLASSROOM POSSIBILITIES OF EQUAL EDUCATIONAL OPPORTUNITY IN AMERICAN CULTURE  
FUTURE: ED FOR EXCEPT. STUDENT 1978 0 0

INPUT: CHILD CHARACTERISTICS

PROCESS: CHILD/TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEM HNDCP: NH

DESIGN: DESCRIPTIVE

DEP VARBL: CHILD/TEACHER BEHAVIOR

REYNOLDS H (ED.)

AGE INCLUDES ADULT

COMMENTS: IND VAR-READING GROUP

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MCGUIRE J

AGGRESSION AND SOCIO-METRIC STATUS WITH PRESCHOOLERS  
SOCIO-METRIC  
1973 36 0 542-549

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: PSCHL HNDGP: NH  
DESIGN: EMPIRICAL DEP VARBL:

SOCIO-METRIC STATUS WITH PRESCHOOL CHILDREN

COMMENTS: DISCUSSES AGGRESSION AND

MCHALE S OLLEY J ET AL  
NONHANDICAPPED PEERS AS  
EXCEPTIONAL CHILDRENMARCUS L SIMEONSSON R  
TUTORS FOR AUTISTIC CHILDREN  
1981 48 0 263-265

INPUT:

PROCESS: CHILD BEHAVIOR

PRODUCT:

REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HNDGP: SH

DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: TASK RELATED BEHAVIOR

COMMENTS: IND VAR-WEEKS 2.5

MCHALE S SIMEONSSON

EFFECTS OF INTERACTION ON NH CHILDREN'S ATTITUDES TOWARD AUTISTIC CHILDREN  
AJHD  
1980 85 0 18-24

INPUT:

PROCESS:

PRODUCT: CHILD ATTITUDES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: SH/NH

DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: ATTITUDE QUESTIONNAIRE

T, AFTER CONTACT MEASURE

COMMENTS: IND VAR-PRETEST NO CONTACT

HERZ W RASKE D

LEAST RESTRICTIVE EDUCATIONAL ENVIRONMENT/PUPIL MATCH  
(REPORT SUBMITTED CALIF DOE) 1978 0 0

INPUT: CHILD CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: SPECIAL:

DESIGN: EXPERIMENTAL

TO CALIF. DEPT OF EDUCATION

AGE: HNDGP:

DEP VARBL: FUNCTION IN ED. SETTINGS COMMENTS: RESEARCH REPORT SUBMITTED  
IND VAR-PUPIL CHARACTERISTICS

MILLER S MILLER T REPP A

ARE PROFOUNDLY & SEVERELY RETARDED PEOPLE GIVEN ACCESS TO LEAST RESTRICTIVE ENVIRONMENT?  
MENTAL RETARDATION  
1978 16 0 123-126

INPUT:

PROCESS:

PRODUCT: ATTITUDES SURVEY

REGULAR: RESOURCE: SPECIAL:

DESIGN: EMPIRICAL

AGE: ADULT HNDGP: SH

DEP VARBL: QUESTIONNAIRE

COMMENTS: IND VAR-NONE

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HILLER T SABATINO D

EVALUATION OF TEACHER-CON SULTANT MODEL AS APPROACH TO MAINSTREAMING  
EXCEPTIONAL CHILDREN 1978 0 0 86-91

INPUT:

PROCESS: TCHR-CONSULT MOD/RSC RM H

PRODUCT:

REGULAR: RESOURCE: Y SPECIAL: AGE: ELEM HNDCP: LH

DESIGN: PRE/POST

DEP VARBL: ACAD ACH (WRAT/PIAT)

COMMENTS: ADDITIONAL DATA AVAILABLE

ON SUBJECT

MONROE J HOWE C

EFFECTS OF INTEGRATION & SOCIAL CLASS ON ACCEPTANCE OF RETARDED ADOLESCENTS  
ED & TRAINING OF HR 0 0 0 20-24

INPUT: CHILD CHARAC

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: LH

DESIGN: QUASI-EXPERIMENTAL  
SCORES

DEP VARBL: SOCIAL ACCEP OF EHR BOYS COMMENTS: IND VAR-SOCIAL ACCEPTANCE

MOORE J FINE H

REG & SPEC CLASS TCHRS' PERCEPTIONS OF NORMAL & EXCEPT IONAL & ATT TOWARD MAINSTR  
PSYCHOLOGY IN THE SCHOOLS 1978 15 0 253-259

INPUT: TCHR CHAR/ATT

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: Y SPECIAL: Y AGE: TCHR HNDCP:

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: QUESTIONNAIRE

COMMENTS: LEARY INTERPERSONAL CHECK

LIST (1957)

MOOS R

THE DIFFERENTIAL EFFECTS OF WARD SETTING ON PSYCHIATRIC PATIENTS  
JRNL NERVOUS & MENTAL DISEAS 1967 145 0 272-283

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: DEP VARBL:

COMMENTS:

MOOS R

SOURCES OF VARIANCE IN RESPONSES TO QUESTIONNAIRES AND IN BEHAVIOR  
JRNL OF ABNORMAL PSYCHOLOGY 1969 74 0 405-412

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP: BK

DESIGN: DESCRIPTIVE DEP VARBL: QUESTIONNAIRES

COMMENTS: IND VAR-WARD ENVIRONMENT

MOOS R

SIZE, STAFFING, AND PSYCHIATRIC WARD TREATMENT ENVIRONMENTS  
 ARCHIVES OF GENERAL PSYCHIA 1972 26 0 414-418  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 RELATIONSHIP BETWEEN HOSP ENVIRONMENT & TREATMENT OUTCOME

COMMENTS: REVIEWS LIT CONCERNING

MOOS R

CHANGING THE SOCIAL MILIEU OF PSYCHIATRIC TREATMENT SETTINGS  
 JRNL OF APPLIED BEHAV SCIENC 1973 9 1 575-593  
 INPUT:  
 PROCESS:  
 PRODUCT: STAFF/CHILD OUTCOMES  
 REGULAR: RESOURCE: SPECIAL: AGE: SCHDY HNDCP: SH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: COPEB  
 COPEB RESULTS

COMMENTS: IND VAR- FEEDBACK ON

MOOS R

CONCEPTUALIZATIONS OF HUMAN ENVIRONMENTS  
 AMERICAN PSYCHOLOGIST 1973 28 2 652-665  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 CONCEPTUAL APPROACHES TO ANALYSIS OF ENVIRONMENT

COMMENTS: IDENTIFIES 6 MAJOR

MOOS R DANIELS D

THE DIFFERENTIAL EFFECTS OF WARD SETTING ON PSYCHIATRIC STAFF  
 ARCHIVE OF GENERAL PSYCHIA 1967 17 0 75-82  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: DEP VARBL:

COMMENTS:

MOOS R HOUTS P

ASSESSMENT OF SOCIAL ATMOSPHERES OF PSYCHIATRIC WARDS  
 JRNL OF ABNORMAL PSYCHIATRY 1968 73 0 545-604  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 WARD ATMOSPHERE SCALE (WAS)

COMMENTS: DESCRIBES DEVELOPMENT OF

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MOOS R OTTO J

COMMUNITY-ORIENTD PROGRMS ENVIRMT SCALE:METHOD FOR FACIL ITATION/EVAL OF SOCIAL CHANGE  
COMMUNITY MENTAL HEALTH JRNL 1972 8 0 28-37

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NONEMPIRICAL DEP VARBL:

COMMENTS:

MOOS R SCHWARTZ J

TREATMENT ENVIRONMENT AND TREATMENT OUTCOMES  
JRNL NERVOUS & MENTAL DISEAS 1972 154 0 264-275

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP: SH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: OUTCOMES

COMMENTS: IND VAR- SOCIAL CLIMATE

MOOS R SHELTON R PETTY C

PERCEIVED WARD CLIMATE AND TREATMENT OUTCOME  
JRNL OF ABNORMAL PSYCHOLOGY 1973 82 0 291-298

INPUT: SETTING CHARAC

PROCESS:

PRODUCT: PATIENT OUTCOMES

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP: SH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TREATMENT OUTCOMES

RELEASE RATES, COMMUNITY TENURE

COMMENTS: IND VAR-DROPOUT RATES.

MAOR M HILGRAH R

TWO PRESERVICE STRATEGIES FOR PREPARING REGULAR CLASS TEACHERS FOR MAINSTREAMING  
EXCEPTIONAL CHILDREN 1980 47 0 126-129

INPUT:

PROCESS: PRESERVICE TRAINING

PRODUCT: TEACHER OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: EXP-CONTROL GRP DEP VARBL: QUESTIONNAIRE

COMMENTS:

NEVIN A JOHNSON D JOHNSON R

GROUP & INDIV CONTINGNCY ON ACAD PERFORMC & SOCIAL RELA TIONS OF SPECIAL NEED STUDENTS  
JRNL OF SOCIAL PSYCHOLOGY 1982 116 41-59

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: LH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: PERFORMANCE FLASHCARD TASK COMMENTS: IND VAR-IND VS GRP CONTIN  
GENCY AGE: INCLUDES BCNDY NOTE: 3 OTHER SIMILAR STUDIES INCLUDED

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OLLEY J DEVELLIS R DEVELLIS B WALL A LONG C  
THE AUTISM ATTITUDE SCALE FOR TEACHERS  
EXCEPTIONAL CHILDREN 1981 47 0 371-372

INPUT:

PROCESS:

PRODUCT: ATTITUDE SCALE DEVELOPMENT

REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:

DESIGN: RELIABILITY/VALIDITY CHECK DEP VARBL: ATTITUDE SCALE

COMMENTS:

OTTOMAN R

MAINSTREAMING: INITIAL

EDUCATIONAL HORIZONS

STEPS IN A DIFFICULT PROCESS

1981 39 0 198-201

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

FOR SUCCESSFUL MAINSTREAMING

COMMENTS: SUGGESTS POSSIBLE STEPS

PALMER D

REGULAR CLERK TCHR ATTRIBUTION &amp; INSTRUCTIONAL PRESCRIPTIONS FOR HNDCP &amp; NH PUPILS

THE JOURNAL OF SPECIAL ED 1979 13 0 325-337

INPUT: LABEL/TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:

DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: TCHR ATTRIBUTION RATING

IALS

DEP VAR-INSTRUCTIONAL PRESCRIPTIONS

COMMENTS: IND VAR-LABEL/ACH LVL. TR

PALMER D

EFFECT OF EHR DESCRIPTIVE INFO ON REGULAR CLERK TCHR'S ATTRIBUTION/INSTRUCTIONAL PRESCRIPTION

MENTAL RETARDATION 1980 18 0 171-175

INPUT: LABEL/TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:

DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: TCHR ATTRIBUTION SCORE ETC

ACH TEST SCORES, TRIALS

DEP VAR-INSTRUCTIONAL PRESCRIPTION SCORES

COMMENTS: IND VAR-EHR DATA LEVELS.

PARISH T BAKER S ET AL

NORMAL AND EXCEPTIONAL

ARHEART K ADAMCHAK P

CHILDREN'S ATTITUDES TOWARD

THEMSELVES AND ONE ANOTHER

JOURNAL OF PSYCHOLOGY

1980 104 0 249-253

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: PERSONAL ATTITUDE INVENTORY COMMENTS: IND VAR-STUDENT ATTITUDE

## PARISH T COPELAND T

TEACHERS' AND STUDENTS' ATTITUDES IN MAINSTREAMED CLASSROOMS  
 PSYCHOLOGICAL REPORTS 1978 43 0 54  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS:  
 PRODUCT: TEACHER ATTITUDES  
 REGULAR: RESOURCE: SPECIAL: AGE: SCNDY HNDCP:  
 DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: PERSONAL ATTITUDE INVENTORY COMMENTS: IND VAR-HANDICAP CLASSIFI  
 CATION

## PARISH T DYCK N KAPPES B

STEREOTYPES CONCERNING NORMAL AND HANDICAPPED CHILDRE N  
 JOURNAL OF PSYCHOLOGY 1979 102 0 63-70  
 INPUT: LABEL/TEACHER ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
 DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: ATTITUDES ON INVENTORY COMMENTS: IND VAR-SEX.ED BACKGROUND  
 AMT OF MAINSTR EXPERIENCE, LABEL

## PARISH T OHLSEN R PARISH J

A LOOK AT MAINSTREAMING IN LIGHT OF CHILDREN'S ATTITUDE S TOWARD THE HANDICAPPED  
 PERCEPTUAL AND MOTOR SKILLS 1978 46 0 1019-21  
 INPUT: CHILD CHARAC/ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: PERSONAL ATTITUDE INVENTORY COMMENTS: IND VAR-TARGET GROUPS  
 AGE: INCLUDES SCNDY

## PARRISH T COPELAND T

TEACHERS' AND STUDENTS' ATTITUDES IN MAINSTREAMED CLASSROOMS  
 PSYCHOLOGICAL REPORTS 1978 43 0 54  
 INPUT: CHILD CHARAC/TCHR ATTITUD  
 PROCESS:  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: PH/LH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: STUDENT RESPONSE COMMENTS: IND VAR-SELF-EVALUATION  
 OF HANDICAPPED MAINSTREAMED STUDENT

## PERVIN L

PERFORMANCE AND SATISFACT ION AS FUNCTION OF INDIVIDUAL- ENVIRONMENT FIT  
 PSYCHOLOGICAL BULLETIN 1968 69 0 56-68  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL: COMMENTS: REVIEWS LIT ON P.E.

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PERVIN L

DEFINITIONS, MEASUREMENTS AND CLASSIFICATIONS OF STIMULI SITUATIONS, AND ENVIRONMENTS  
 HUMAN ECOLOGY 1978 6 0 71-105

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NONEMPIRICAL DEP VARBL:

IONS, MEASUREMENTS OF E.

COMMENTS: REVIEWS ISSUES REDEFINITION

PETERSON G

FACTORS RELATED TO THE ATTITUDES OF NONRETARDED CHILDREN TOWARD THEIR ENR PEERS  
 AJHD 1974 79 0 412-416

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE SCALES

GRADE AGE: INCLUDES SCNDY

COMMENTS: IND VAR-CONTACT. 10.5EX.

PETERSON N HARALICK J

INTEGRATION OF HANDCP & NH PRESCHLRS: ANALYSIS OF PLAY BEH AVIOR & SOCIAL INTERACTION  
 ETHR 1977 12 0 235-245

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: PSCHL HANDCP: NH

DESIGN: EMPIRICAL DEP VARBL:

HANDCP &amp; NH PRESCHOOLERS

COMMENTS: DISCUSSES INTERACTIONS OF

PETERSON P

DIRECT INSTRUCTION RECONSIDERED  
 RESEARCH ON TEACHING 1979 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

RUCTION &amp; EFFECT ON STUDENT OUTCOMES

COMMENTS: DISCUSSION OF DIRECT INST  
 PETERSON P P & WALBERG H J (ED)

PIERCE W TRICKETT E MOOS R

CHANGING WARD ATMOSPHERE THROUGH STAFF DISCUSSION OF THE PERCEIVED WARD ENVIRONMENT  
 ARCHIVES OF GENERAL PSYCHIA 1972 26 0 35-41

INPUT:

PROCESS:

PRODUCT: STAFF/PATIENT OUTCOMES

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP: SH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: CHANGES IN PERCEPTION

DEP VAR- CHANGES IN STAFF/ PATIENT PERCEPTION

COMMENTS: IND VAR- WAS

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PRATT M LUSCZ M BROWN M

MEASURING DIMENSIONS OF THE QUALITY OF CARE IN SMALL COMMUNITY RESIDENCES  
 (JMD) 1980 85 0 188-194

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP: SH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: OBSERV/INTERVIEW SCALES COMMENTS: IND VAR-GROUP HOMES

PRICE R

TAXONOMIC CLASSIFICATION OF BEHAV & SITUATIONS & PROBLEM OF BEHAV-ENVIRON CONGRUENCE  
 HUMAN RELATIONS 1974 27 0 567-585

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NONEMPIRICAL DEP VARBL:

&amp; SITUATION EXAMPLES COLLECTED FROM 1 DAY DIARIES OF PSYCH STUDENTS COMMENTS: CLUSTER ANALYSIS OF BEHAV

PRICE R BLASHFIELD R

EXPLORATION IN TAXONOMY OF BEHAV SETTING: ANAL OF DIMENSION & CLASSIFICATION OF SETTING  
 AMER JRNL COMMUNITY PSYCHOLOGY 1975 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: DEP VARBL:

COMMENTS:

PRICE R MOOS R

TOWARD A TAXONOMY OF INPATIENT TREATMENT ENVIRONMENTS  
 JRNL OF ABNORMAL PSYCHOLOGY 1975 84 0 181-188

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP: SH

DESIGN: DESCRIPTIVE DEP VARBL:

COMMENTS: IND VAR-SETTING CHARAC

PRILLAMAN D

ACCEPTANCE OF LD STUDENTS IN MAINSTREAM ENVIRONMENT: A FAILURE TO REPLICATE  
 JRNL OF LEARNING DISABILITY 1981 14 0 344-346

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: Y SPECIAL: AGE: ELEH HANDCP: NH/LH

DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: SOCIOECONOMIC MEASURE

COMMENTS: IND VAR-SEX, HANDCP, GRADE

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QUAY C

MODIFICATION OF PROBLEM BEHAVIOR AND ACADEMIC ACHIEVEMENT IN A RESOURCE ROOM  
 J OF SCHOOL PSYCHOLOGY 1972 10 0 187-198  
 INPUT:  
 PROCESS: EXP OR CTRL GRP  
 PRODUCT:  
 REGULAR: RESOURCE: Y SPECIAL: AGE: ELEM HNDCP: LH  
 DESIGN: EXP-RANDOM ASSIGN DEP VARBL: SOC BEH & ACAD ACH COMMENTS:

REESE-DUKES J STOKES E

SOCIAL ACCEPTANCE OF ELEMENTARY EHR PUPILS IN THE REGULAR CLASSROOM  
 ETHR 1978 0 0 356-361  
 INPUT: CHILD CHARAC/ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH/LH  
 DESIGN: EMPIRICAL/QUASI-EXPERIM DEP VARBL: SOCIOMETRIC MEASURE COMMENTS: IND VAR-SEX.EHR/NON-EHR

RESCHLY D LAMPRECHT M

EXPECTANCY EFFECTS OF LABELS: FACT OR ARTIFACT?  
 EXCEPTIONAL CHILDREN 1979 46 0 35-58  
 INPUT: LABEL  
 PROCESS: CHILD BEHAVIOR  
 PRODUCT: TEACHER ATTITUDE  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
 DESIGN: EMPIRICAL/EXPERIMENTAL DEP VARBL: TCHR PREDICTION SCORES  
 TASK.LENGTH OF EXPOSURE TO CHILD COMMENTS: IND VAR-LABEL.TYPE OF

RICHEY D MILLER M LESSMAN J

RESOURCE AND REGULAR CLASSROOM BEHAVIOR OF LEARNING DISABLED STUDENTS  
 J OF LEARNING DISABILITIES 1981 14 0 163-166  
 INPUT: SETTING CHARACTERISTIC  
 PROCESS: TCHR BEHAVIOR/CHL BEHAV  
 PRODUCT:  
 REGULAR: Y RESOURCE: Y SPECIAL: AGE: ELEM HNDCP: LH  
 DESIGN: EXP-CONTROL GRP DEP VARBL: DIRECT OBSERVATION COMMENTS: IND VAR - RESOURCE ROOM  
 VS REGULAR CLASSROOM

RICHMOND B WAITS C

SPECIAL EDUCATION-WHO NEEDS IT?  
 EXCEPTIONAL CHILDREN 1978 44 0 279-280  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS:  
 PRODUCT: TEACHER REFERRALS  
 REGULAR: RESOURCE: SPECIAL: AGE: ELEM HNDCP: LH  
 DESIGN: DESCRIPTIVE, EMPIRICAL DEP VARBL: SEX.RACE,LABEL COMMENTS: IND VAR-REFERRAL BY TCHR  
 NECESSITATING TEST BATTERY

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RIETH H POLSGROVE L SENNEL H

RELATIONSHIP BETW INSTRUC TIME & ACAD ACHIEVEMENT: IMPLIC ATION FOR RESEARCH & PRACTICE  
EDUCATION UNLIMITED' 1979 1 0 53-56

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EXAMINE & PERHAPS RESTRUCTURE & RELOCATE INSTRUCTIONAL TIME PROVIDED IN THE CLASSROOM COMMENTS: DISCUSSION OF THE NEED TO

RIETH H POLSGROVE L SENNEL H

INSTRUCTIONAL VARIABLES THAT MAKE A DIFFERENCE: ATTENTI ON TO TASK AND BEYOND  
EXCEPTIONAL ED QUARTERLY 1981 0 0 61-71

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EXAMINE LEVELS OF ALT & IDENTIFY PROCEDURES FOR INCREASING ALT PROVIDED IN CLASSROOM COMMENTS: DISCUSSION OF NEED TO

RIST R

STUDENT SOCIAL CLASS & TEACHER EXPECTATION: SELF-FULFILL ING PROPHECY IN GHETTO EDUCATN  
HARVARD EDUCATIONAL REVIEW 1970 40 0 411-431

INPUT: CHILD CHARACTERISTICS

PROCESS: TCHR/CHILD BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: DESCRIPTIVE DEP VARBL: CHILD/TCHR BEHAVIOR

ASS. TEACHER EXPECTATION AGE: INCLUDES ADULT COMMENTS: IND VAR-STUDENT SOCIAL CL

RITTER D

SURVIVING IN THE REGULAR CLASSROOM: FOLLOW-UP OF MAINSTR EAMED CHILDREN WITH LD  
J OF SCHOOL PSYCHOLOGY 1978 16 0 253-256

INPUT:

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: LH

DESIGN: DEP VARBL:

COMMENTS:

ROMBERG T

SALIENT FEATURES OF THE BEGINNING TEACHER EVALUATION STUDY FRAMEWORK OF TEACHER  
TIME TO LEARN 1980 0 0

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

REVIEW OF THE BEGINNING TEACHER EVALUATION STUDY

COMMENTS: BEHAVIOR  
DENHAM C & LIEBERMAN A(ED)

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ROSENSHINE B

ACADEMIC ENGAGED TIME.  
JOURNAL OF EDUCATION  
INPUT:CONTENT COVERED. AND DIRECT  
1978 160 0 38-66

INSTRUCTION

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HANDCP:

DESIGN: NON-EMPIRICAL

DEP VARBL:

ON RELATIONSHIP BETWEEN CLSRH INSTRUCTION &amp; STUDENT ACHIEVMTGAIN

COMMENTS: REVIEW OF RECENT RESEARCH

ROSENSHINE B

CONTENT. TIME AND DIRECT INSTRUCTION  
RESEARCH ON TEACHING

1979 0 28-56

INPUT:

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HANDCP:

DESIGN: NON-EMPIRICAL

DEP VARBL:

BETWEEN TIME ON TASK &amp; LEARNNG PETERSON P &amp; WALBERG H (EDS.)

COMMENTS: DISCUSSION OF RELATIONSHIP

ROTHBART M DALFEN B BARNETT R

EFFECTS OF TEACHER EXPECT ATIONS ON STUDENT-TEACHER INTE RACTION  
JRNL OF ED PSYCHOLOGY

1971 62 0 49-54

INPUT: CHILD CHARACTERISTICS

PROCESS: CHILD/TCMR BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE:

SPECIAL:

AGE: ADULT HANDCP: NH

DESIGN: EXPERIMENTAL

DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-LABEL

ROWITZ L

SOCIOLOGICAL PERSPECTIVE ON LABELING(A REACTION TO  
AMERICAN JRNL/MENTAL DFCNCY 1974 79 0 265-267

INPUT:

PROCESS:

PRODUCT:

REGULAR:

RESOURCE:

SPECIAL:

AGE:

HANDCP:

DESIGN: NON-EMPIRICAL

DEP VARBL:

OF LABELING EFFECTS

HACHILLAN.JONES.AND ALOIA)

COMMENTS: PHILOSOPHICAL DISCUSSION

RUBOVITS P MAEHR M

PYGMALION ANALYZED:TOWARD AN EXPLANATION OF ROSENTHAL-JA COBSON FINDINGS  
JRNL/PERSON & SOCIAL PSYCH 1971 19 0 197-203

INPUT: CHILD CHARACTERISTICS

PROCESS: TCHR/CHILD BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE:

SPECIAL:

AGE: ADULT HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TCHR/STONT INTERACTIONS

AGE: INCLUDES ELEM &amp; SCNDY

COMMENTS: IND VAR-TCHR EXPECTATIONS

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RUBOVITS P MAEHR H

PYCHALION BLACK AND WHITE

JRNL/PERSON &amp; SOCIAL PSYCH 1973 25 0 210-218

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ADULT HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: TCHR/STONT INTERACTIONS

COMMENTS: IND VAR-RACE-LABEL

AGE: INCLUDES SCNDY

RUSSO D KOEGEL R

A METHOD FOR INTEGRATING AN AUTISTIC CHILD INTO NORMAL PUBLIC SCHOOL CLASSROOM

JABA 1977 10 0 579-590

INPUT:

PROCESS: COLL/CHILD PROGRS DATA

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL:

AGE: ELEH HNDCP: SH

DESIGN: INTRASUBJECT

DEP VARBL: OBSERVATION

COMMENTS:

RUST J MILLER L

USING A CONTROL GROUP TO EVALUATE A RESOURCE ROOM

PROGRAM

PSYCHOLOGY IN THE SCHOOLS 1978 15 0 503-506

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: RESOURCE: Y SPECIAL: AGE: ELEH HNDCP: LH

DESIGN: EXP-RNDMLY PLCD EXP/CNTRL DEP VARBL: STANDARDIZED TESTS

COMMENTS:

RYNDERS J JOHNSON R ET AL

JOHNSON D SCHMIDT B

PRODUCING POSITIVE INTERA CTN AMONG DOWN SYNDRM &amp; NH TEE NAGERS THRU COOP GOAL STRUCTNG

AMERICAN JRNL/MENTAL DFCNCY 1980 85 0 268-273

INPUT: CHILD/SETTING CHARAC

PROCESS: COOP LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: NH/SH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: BOWLING ACHIEVEMENT ETC

COMMENTS: IND VAR-COOP. COMPET. IND

GOAL STRUCTURE

DEP VAR-FREQUENCY OF VERBAL INTERACTIONS

SABATINO D

AN EVALUATION OF RESOURCE ROOMS FOR CHILDREEN WITH

LEARNING DISABILITIES

J OF LEARNING DISABILITIES 1971 2 0 26-35

INPUT:

PROCESS: SPEC CLASS VS RSC RM

PRODUCT:

REGULAR: RESOURCE: Y SPECIAL:

AGE: ELEH HNDCP: LH

DESIGN: EXP

DEP VARBL: ACADEMIC GROWTH

COMMENTS:

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SABATINO D

RESOURCE ROOMS: THE RENAISSANCE IN SPECIAL EDUCATION  
JOURNAL OF SPECIAL EDUCATION 1972 4 1 335-347

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

SPECIAL EDUCATION THAT ALLOWS FOR A DIVERSITY OF EDUCATIONAL SYSTEMS

COMMENTS: DESCRIBES A THEORY OF

SABATINO D

REVOLUTION: VIVA RESOURCE ROOM

JOURNAL OF SPECIAL EDUCATION 1972 6 2 389-395

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

EARLIER ARTICLE ON RESOURCE ROOMS

COMMENTS: REVIEW OF RESPONSES TO

SABATINO D

PL 94-142: POPULAR WELFARE BANDWAGON OR A NON-TOO STABLE EDUCATIONAL SHIP?  
JOURNAL OF SPECIAL EDUCATION 1981 15 1 49-54

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

SYMPOSIUM ARTICLE DEALS W/ SOCIO-POLITICAL CONTEXT OF LAW/LEGAL MANDATES CANNOT PRODUCE CHANGE OUTSIDE OF SYSTEM

COMMENTS: RESPONSE TO 4 CRITIGES OF

SABATINO D

ARE APPROPRIATE ED PROGRAM OPERATIONALLY ACCEPTABLE UNDER MANDATED PROMISES OF PL94-142?  
JOURNAL OF SPECIAL EDUCATION 1981 15 2 9-23

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

SCUSSES AMBIGUITIES IN 94-142 THAT COULD CAUSE PROBLEMS AT IMPLEMENTATION LEVEL

COMMENTS: SYMPOSIUM LEAD ARTICLE D1

BAPON-SHERIN H

MAINSTREAMING: IMPLEMENTING THE SPIRIT OF THE LAW  
JOURNAL OF NEGRO EDUCATION 1979 48 3 364-381

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

THE MAINSTREAMING MOVEMENT HASTAKEN TO DATE

COMMENTS: TRACE THE DIRECTION WHICH

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SARGENT L LEHMAN R ET AL SMITH D HILDEBRANDT C  
 INDIVIDUALIZATION SIMULAT ION & INTEGRATION: MODEL SCNDY PROGRM FR MILD MENTALLY HNDCP  
 ETHR 1981 16 0 162-165  
 INPUT:  
 PROCESS: TEACHING STRATEGIES  
 PRODUCT: CHILD OV COMES  
 REGULAR: RESOURCE: SPECIAL: Y AGE: SCNDY HNDCP: LH  
 DESIGN: DEP VARBL: SOCIAL/PREVOC INFO BATTY COMMENTS:

SCHANTZ C  
 THE DEVELOPMENT OF SOCIAL COGNITION  
 REVIEW/CHILD DVPHNT/RESEARCH 1975 0 0  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 OF SOCIAL COGNITION HETHERINGTON E (ED) COMMENTS: DISCUSSION OF DEVELOPMENT

SCHLOSS P MILLER S  
 EFFECTS OF LABEL "INSTITUTIONALIZED" VS "REGULAR SCHOOL STUDENT" ON TEACHER EXPECTATNS  
 EXCEPTIONAL CHILDREN 1982 48 0 363-364  
 INPUT: LABEL/TEACHER ATTITUDES  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDCP:  
 DESIGN: EXPERIMENTAL DEP VARBL: QUESTIONNAIRE  
 LABEL OF STUDENT COMMENTS: IND VAR-PLACEMENT INFO.

SCHUMAN H JOHNSON H  
 ATTITUDES AND BEHAVIOR  
 ANNUAL REVIEW OF SOCIOLOGY 1976 2 0 161-207  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 OF RELATIONSHIP BETWEEN AT- TITUDES AND BEHAVIOR COMMENTS: DISCUSSION OF THE LACK

SCOTT M  
 ECOLOGICAL THEORY & METHO DS FOR RESEARCH IN SPECIAL EDU CATION  
 JOURNAL OF SPECIAL EDUCATION 1980 14 0 279-294  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
 DESIGN: NON-EMPIRICAL DEP VARBL:  
 ECO.RES. METHODS TO SPEC ED QUESTIONS INCLUDING MAINSTREAM/LRE. DESCRIBES BEHAVIOR X SETTING THEORY  
 COMMENTS: DESCRIBES RELEVANCE OF

343

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LRE ABSTRACTS

SCRANTON T RYCKMAN D

SOCIOMETRIC STATUS OF LEARNING DISABLED CHILDREN IN AN INTEGRATIVE PROGRAM  
JRNL OF LEARNING DISABILITY 1979 12 0 402-407  
INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIOMETRIC MEASURE

COMMENTS: IND VAR-LO/NOH-LO.SEX.

4/- ITEMS

SEHMEL H VANEVRY P SITKO H

MOTHER.FATHER.AND TEACHER PERCEPTIONS OF SOCIAL COMPETEN CY OF THR CHILDREN  
CNTR/INNOVATION TCHNG HNDGP 1971 0 0

INPUT: TEACHER/PARENT ATTITUDE

PROCESS:

PRODUCT: CHILD CHARACTERISTICS

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HNDGP: SH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIAL COMPETENCY SCORES COMMENTS: IND VAR-RATERS. ADMINISTR  
ATION OF SCALE. SEX, SES. INTERACTIONS OF VARIABLES

SHARAN S

COOP LEARNING IN SMALL GR OUPS:RECENT METHOD & EFFECT ON ACHIEV.ATTIT. & ETHNIC RELATNS  
REVIEW OF ED RESEARCH 1980 30 2 241-271

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDGP:

DESIGN: NON-EMPIRICAL DEP VARBL:

PERATIVE LEARNING

COMMENTS: REVIEW OF RESEARCH ON COO

SHEARE J

SOCIAL ACCEPTANCE OF EHR ADOLESCENTS IN INTEGRATED PROG RAMS  
AJHD 1974 78 0 678-682

INPUT:

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDGP: NH/EHR

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE SCALE

COMMENTS:

SHEARE J

IMPACT OF RESOURCE PROGRM UPON SELF-CONCEPT & PEER ACCEP TANCE OF LD CHILDREN  
PSYCHOLOGY IN THE SCHOOLS 1978 15 0 406-412

INPUT: CHILD/SETTING CHARAC

PROCESS:

PRODUCT: CHILD ATTITUDE

REGULAR: Y RESOURCE: Y SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SELF-CONCEPT SCORES ETC COMMENTS: IND VAR-PARTICIPATION IN  
RESOURCE-BASED SPECIAL ED PROGRAM

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SHOTEL J IANO R MCGETTIGAN J  
TEACHER ATTITUDES ASSOCIATED WITH THE INTEGRATION OF HANDICAPPED CHILDREN  
EXCEPTIONAL CHILDREN 1972 38 0 677-683  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: DEP VARBL: COMMENTS:

SIGLER G HABEC W LAZAR A  
CHILDREN'S ATTITUDES TOWARD HANDICAPPED STUDENTS AS RESULT OF MAINSTREAMED SETTING  
MENTAL RETARDATION BULLETIN 1978 6 0 92-97  
INPUT: CHILD/SETTING CHARAC/ATTIT  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE MEASURES COMMENTS: IND VAR-SETTING TYPE. LEN  
GTH OF TIME EXPOSED TO HANDCP

SILBERMAN M  
BEHAVIORAL EXPRESSION OF TEACHERS' ATTITUDES TOWARD ELEMENTARY SCHOOL STUDENTS  
JOURNAL OF EDUC PSYCHOLOGY 1969 60 0 402-407  
INPUT: TEACHER ATTRIBUTIONS  
PROCESS: TEACHER BEHAVIOR  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HANDCP: NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR COMMENTS: IND VAR-TEACHER ATTITUDE

SIMPSON R  
MOVING THE ATTITUDES OF REGULAR CLASS STUDENTS TOWARD THE HANDICAPPED  
FOCUS ON EXCEPTIONAL CHILDREN 1980 13 0 1-11  
INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
THE REGULAR CLASSROOM STUDENTS TO ACCEPT HANDICAPPED BY MODIFYING ATTITUDES COMMENTS: DISCUSSION OF PREPARING

SIMPSON R PARRISH N COOK J  
MODIFICATION OF ATT OF REGULAR CLASS CHILDREN TOWARD THE HANDICAPPED FOR THE PURPOSE OF INTEG  
CONTEMP EDUCATIONAL PSYCHOLOGY 1976 1 0 46-51  
INPUT:  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH  
DESIGN: EXP-RANDOM ASSIGN DEP VARBL: ATTITUDE SCALE SCORE COMMENTS: IND VAR-EXPOSURE TO FILMS  
SLIDES. LECTURE. ROLE PLAY 2ND EXP-

345

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SIMSON J WETHERICK N

THE BEHAVIOR OF CHILDREN WITH DOWN'S SYNDROME IN NORMAL PLAYGROUNDS  
JRNL/MENTAL DEFNCY RESEARCH 1981 25 0 113-120

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: DEP VARBL:

COMMENTS:

SIPERSTEIN C BAK J

STUDENTS' AND TEACHERS' PERCEPTIONS OF THE MENTALLY RETARDED CHILD  
EDUCATING MR PERSONS/MAINSTR 1980 0 0

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: DESCRIPTIVE DEP VARBL: QUESTIONNAIRE

AGE: INCLUDES SCNDY COTTLIER J (ED)

COMMENTS: IND VAR-GRADE LEVEL  
BOOK TITLE: EDUCATING MR PERSON IN THE MAINSTREAM

SIPERSTEIN C BOPP H BAK J

SOCIAL STATUS OF LEARNING DISABLED CHILDREN  
JRNL OF LEARNING DISABILITY 1978 11 0 98-102

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: LH/NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIOMETRIC MEASURE

COMMENTS: IND VAR-LD/NON-LD STUDENT

SIPERSTEIN C BUDOFF H BAK J

EFFECT OF LABELS "MENTALLY RETARDED" & "RETARDED" ON SOCIAL ACCEPTANCE OF MR CHILDREN  
AMERICAN JRNL/MENTAL DEFNCY 1980 84 0 596-601

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ADJECTIVE CHECKLIST ETC

LABEL, APPEARANCE

DEP VAR-ACTIVITY PREFERENCE LIST

COMMENTS: IND VAR-COMPETENCE, SEX.

SIPERSTEIN C CHATILLON A

IMPORTANCE OF PERCEIVED SIMILARITY IN IMPROVING CHILDREN'S ATTITUDES TOWARD MR PEERS  
AMERICAN JRNL/MENTAL DEFNCY 1982 86 0 433-458

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE MEASURES

RETARDED, NEUTRAL/SIMILAR CONDITIONS

COMMENTS: IND VAR-SEX, EXPOSURE TO

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SIPERSTEIN G GOTTlieb J

PHYSICAL STIGMA &amp; ACAD PE RFORMNCE AFFECTING CHILDREN'S FIRST IMPRESSION OF HND CP PEER

AJMD 1977 51 0 455-462

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HND CP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ADJECTIVE CHECKLIST ETC COMMENTS: IND VAR-SEX, POPULARITY

DEP VAR-PELLER COMPETENCY INVENTORY, SOCIAL DISTANCE SCALE, TEACHER RATING OF CHILD SOCIAL STATUS

SLAVIN R

STUDENT TERMS AND ACHIEVEMENT DIVISIONS

JRNL RESEARCH/DUPHT IN ED 1978 12 0 39-49

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HND CP:

DESIGN: NON-EMPIRICAL DEP VARBL:

COOPERATIVE LEARNING

COMMENTS: REVIEW OF RESEARCH ON

SLAVIN R

COOPERATIVE LEARNING

REVIEW OF ED RESEARCH 1980 30 0 315-342

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HND CP:

DESIGN: NON-EMPIRICAL DEP VARBL:

COOPERATIVE LEARNING

COMMENTS: REVIEW OF EFFECTS OF

SLAVIN R

KARWEIT N

COGNITIVE AND AFFECTIVE OUTCOMES OF AN INTENSIVE STUDENT TEAM LEARNING EXPERIENCE

JOURNAL OF EXPERIMENTAL ED 1981 50 1 29-35

INPUT:

PROCESS: COOPERATIVE LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HND CP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACAD ACH, ATTITUDES ETC COMMENTS: IND VAR-COOPERATIVE GROUP

STRUCTURE DEP VAR-ANXIETY, SOCIO-METRIC ITEMS, ACAD ACH ACCOUNTABILITY, STUDENT SELF-ESTEEM

SLAVIN R KARWEIT N

COGNITIVE AND AFFECTIVE OUTCOMES OF AN INTENSIVE STUDENT TEAM LEARNING EXPERIENCE

JRNL OF EXPERIMENTAL ED 1981 50 0 29-35

INPUT:

PROCESS: COOPERATIVE LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HND CP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACH TEST, ATTITUDES ETC COMMENTS: IND VAR-GOAL STRUCTURE

DEP VAR-ACADEMIC ACHIEVEMENT ACCOUNTABILITY, ANXIETY, SOCIO-METRIC ITEMS, STUDENT SELF-ESTEEM

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LRE ABSTRACTS

SMITH I GREENBURG S

TEACHER ATTITUDES AND  
EXCEPTIONAL CHILDREN

THE LABELING PROCESS  
1975 41 0 319-324

INPUT: LABEL/TCHR ATTITUDES

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL:

AGE: ADULT HNDGP:

DESIGN: EMPIRICAL/EXPERIMENTAL

DEP VARBL: TCHR RSPNSE TO QUESTIONS

ADAPTIVE BEHAVIOR

COMMENTS: IND VAR-SOCIAL CLASS.

SMITH K JOHNSON D JOHNSON R

EFFECT OF COOP & INDIV IN STRUCTION ON ACHIEVMT OF HNDGP .REGULAR. & GIFTED STUDENTS  
JRNL OF SOCIAL PSYCHOLOGY 1982 116 0 277-283

INPUT: CHILD CHARACTERISTICS

PROCESS: COOP LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: ACHIEVEMENT QUESTIONS

STRUCTURE: GIFTED, HNDGP, OR REGULAR

COMMENTS: IND VAR-COOP/INDIV GOAL

SONMER R

SMALL GROUP ECOLOGY

PSYCHOLOGICAL BULLETIN

1967 67 0 145-152

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL:

AGE:

HNDGP:

DESIGN: NO/-EMPIRICAL

DEP VARBL:

GE THEMSELVES UNDER VARIOUS CONDITIONS/WAYS IN WHICH ARRANGEMENTS AFFECT COMMUNICATION.ETC

COMMENTS: LOOKS AT WHY GROUPS ARRAN

STAGER S YOUNG R

INTERGROUP CONTACT AND

SOCIAL OUTCOMES FOR MAIN-

AJND 1981 85 0 497-503

STREAHEED EHR ADOLESCENTS

INPUT: CHILD CHARAC/ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: Y AGE: SCHDY HNDGP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: ATTIT/SOCIOHMETRIC QUESTNN COMMENTS: IND VAR-TIME.NOMINATIONS

BY NH/EHR

STAINBACK W STAINBACK S

RASCHKE D ANDERSON R

THREE METHODS FOR ENCOURA GING INTERACTIONS BETW SEVEREL Y RETARDED AND NH STUDENTS  
ED & TRAINING OF THE MR 1981 16 0 188-192

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL:

AGE:

HNDGP:

DESIGN: NON-EMPIRICAL

DEP VARBL:

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COMMENTS:

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## STALLINGS J

IMPLEMENTATION AND CHILD EFFECTS OF TEACHING PRACTICES IN FOLLOW THROUGH CLASSROOMS  
MONOGRAPHS/CHILD DEVELOPMENT 1975 40 0

INPUT:  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
CHILDREN IN CLASSROOM SITUATION. DEP VARBL: ACHIEVEMENT TESTS. ETC COMMENTS: IND VAR-BEHAV OF TCHRS/CH  
DEP VAR-COPPERSMITHS SELF-ESTEEM INVENTORY. RAVENS COLOR PERCEPTIVES. ETC.

## STALLINGS J

ALLOCATED ACADEMIC LEARNING TIME REVISITED. OR BEYOND TIME ON TASK  
EDUCATIONAL RESEARCHER 1980 9 0 11-16

INPUT:  
PROCESS: DIRECT TEACHING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
ALLOCATED TO SPECIFIC READING ACTIVITIES DEP VARBL: ACHIEVEMENT TESTS, ETC COMMENTS: IND VAR-AMOUNT OF TIME  
DEP VAR-TCHR BEHAV. CLASSROOM OBSERVATION. ABSENCE RECORDS

## STENDLER C DAMRIN D HAINES A

STUDIES IN COOPERATION & COMPETITION  
JRNAL OF GENETIC PSYCHOLOGY 1951 79 0 173-197

INPUT:  
PROCESS: COOP GOAL STRUCTURING  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
UP & INDIVID REWARDS ON SOCIAL CLIMATE OF CHILDREN'S GROUPS IND VAR-GOAL FACTORS  
DEP VARBL: BEHAVIOR/SITUATION OBSERV COMMENTS: EFFECT OF WORKING FOR GRO

## STEPHENS T BRAUN L

MEASURES OF REGULAR CLASS ROOM TEACHERS' ATTITUDE TOWARD HANDICAPPED CHILDREN  
EXCEPTIONAL CHILDREN 1980 46 0 292-294

INPUT: TEACHER CHARACTERISTICS  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:  
DESIGN: QUASI EXPERIMENTAL  
ATTITUDES TOWARD HANDICAPPED DEP VARBL: QUESTIONNAIRE COMMENTS: IND VAR-AMT OF TRAINING.

## STRAUCH J

SOCIAL CONTACT AS VARIABLE IN EXPRESSED ATTITUDES OF NORMAL ADOLESC TOWARD EHR PUPILS  
EXCEPTIONAL CHILDREN 1970 36 0 495-500

INPUT: SETTING CHARAC/CHILD ATTIT  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
DEP VARBL: ATTITUDE MEASURE COMMENTS: IND VAR-AMOUNT OF CONTACT

# LRE ABSTRACTS

SWART R

A SECONDARY SCHOOL RESOURCE ROOM MAKES MAINSTREAMING  
TEACHING EXCEPTIONAL CHILDREN 1979 0 0 77-79 WORK

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
CE RM PROGRAM FOR EHR STUDENTS/DESCRIBES LACK OF FLEXIBILITY AT SECONDARY LEVEL OF TEACHING TECHNIQUES  
COMMENTS: DESCRIBES JR. HIGH RESOURCE

THOMAS H

ADAPT PROGRAM TO FIT THE NEEDS: CONVERSATION WITH K E WYATT ABOUT LRE FOR MR STUDENT  
ETHR 1979 0 0 191-197

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
& OTHER FACTORS WHICH CONTRIBUTE TO LRE FOR MR/ ETHICAL VS. LEGAL REQUIREMENTS OF SERVICES TO CHILDREN  
COMMENTS: DISCUSSION OF ENVIRONMENT

THORPE H CHIANG B DARCH C

INDIVIDUAL & GROUP FEEDBACK SYSTEMS FOR IMPROVING ORAL READING ACCURACY IN LD & REG CLASS  
JOURNAL OF LEARNING DISABILITY 1981 14 0 332-334

INPUT: CHILD CHARACTERISTICS  
PROCESS: TEACHER BEHAVIOR  
PRODUCT: CHILD OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: LH/NH  
DESIGN: QUASI-EXPERIMENTAL DEP VARBL: NATURE OF READING ERRORS  
FEEDBACK  
COMMENTS: INDIVIDUAL OR GROUP

THURMAN B

LEAST RESTRICTIVE ENVIRONMENT: ANOTHER SIDE OF THE COIN  
ETHR 1981 0 0 68-70

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
ANCE BETWEEN INDIVIDUAL & ENVIRONMENT/PHILOSOPHICAL/  
LEGAL STRENGTH OF LRE PRINCIPLE  
COMMENTS: MUTUAL TOLERANCE & ACCEPT

THURMAN B LEWIS H

CHILDREN'S RESPONSE TO DIFFERENCES: SOME POSSIBLE IMPLICATIONS FOR MAINSTREAMING  
EXCEPTIONAL CHILDREN 1979 45 0 468-470

INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
DESIGN: NON-EMPIRICAL DEP VARBL:  
CE/REJECTION OF HANDCP CHILDREN MAY BE TENDENCY TO RESPOND DIFFERENTIALLY TO DIFF/SUGGESTS ACTIVE CONFRONTATION  
COMMENTS: LOOKS AT ROOTS OF PREJUDICE

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TRICKETT E MOOS R

GENERALITY & SPECIFICITY OF STUDENT REACTIONS IN HIGH SCHOOL CLASSROOMS  
ADOLESCENCEINPUT:  
PROCESS: SETTING CHARAC  
PRODUCT: STUDENT OUTCOMES  
REGULAR: Y RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
DIFFERENCES  
DEP VARBL: STUDENT FEELING/INITIATIV COMMENTS: IND VAR- STUDENT/SETTING

TRICKETT E MOOS R

SOCIAL ENVIRONMENT OF JUNIOR HIGH AND HIGH SCHOOL CLASSROOMS  
JRNL OF EDUCATIONAL PSYCHOLO 1973 65 0 93-102INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NONEMPIRICAL  
DIFFERENT CLASSROOM PROFILES  
DEP VARBL:  
COMMENTS: GIVES EXAMPLES OF

VACC N KIRST N

EMOTIONALLY DISTURBED CHILDREN AND REGULAR CLASS TEACHERS  
ELEMENTARY SCHOOL JOURNAL 1977 77 0 309-317INPUT: TEACHER ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: TCHR HNDCP:  
DESIGN: EXP-RANDOM SELECTION  
DEP VARBL: QUESTIONNAIRE  
COMMENTS: IND VAR-SELF-REPORTED ATT

VALETT R

MAINSTREAMING EXCEPTIONAL CHILDREN BY FUNCTIONAL ACHIEVEMENT GROUPING  
JRNL OF LEARNING DISABILITY 1981 14 0 123,171INPUT:  
PROCESS:  
PRODUCT:  
REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:  
DESIGN: NON-EMPIRICAL  
REGULAR CHRONOLOGICAL AGE-CLASS GROUPING OF CHILDREN  
DEP VARBL:  
COMMENTS: PRESENTS ALTERNATIVES TO

VOELTZ L

CHILDREN'S ATTITUDES TOWARD HANDICAPPED PEERS  
AMERICAN JRNL/MENTAL DFCNCY 1980 84 0 455-465INPUT: CHILD CHARAC/ATTITUDES  
PROCESS:  
PRODUCT:  
REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH  
DESIGN: QUASI-EXPERIMENTAL  
SEX, GRADE  
DEP VARBL: ATTITUDE SURVEY  
COMMENTS: IND VAR-AMOUNT OF CONTACT

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VOELTZ L

EFFECT OF STRUCTURED INTE RACTION W/ SEVERELY HNDCP PEER ON CHILDREN'S ATTITUDES  
AMERICAN JRNL/MENTAL DFCNCY 1982 86 • 380-390

INPUT: SETTING CHARACTERISTICS

PROCESS:

PRODUCT: CHILD ATTITUDES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACCEPTANCE SCALE

, SEX

COMMENTS: IND VAR-AMOUNT OF CONTACT

WALBERG H

CLASS SIZE AND THE SOCIAL ENVIRONMENT OF LEARNING

HUMAN RELATIONS 1969 22 • 465-475

INPUT: SETTING CHARAC

PROCESS:

PRODUCT: STUDENT OUTCOMES

REGULAR: RESOURCE: SPECIAL: AGE: SCNDY HNDCP: NH

DESIGN: DESCRIPTIVE DEP VARBL: LEI

CURRICULUM

COMMENTS: IND VAR-CLASS SIZE/

WALBERG H

MODELS FOR OPTIMIZING AND INDIVIDUALIZING SCHOOL

INTERCHANGE 1971 2 • 15-27

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NONEMPIRICAL DEP VARBL:

LEARNING

COMMENTS:

WALBERG H FREDERICK W

INSTRUCTIONAL TIME AND LEARNING

ENCYCLOPEDIA OF ED RESEARCH 1982 • •

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HNDCP:

DESIGN: NON-EMPIRICAL DEP VARBL:

INSTRUCTIONAL ITHE AND LEARNING

COMMENTS: REVIEW OF LITERATURE ON

WAY J

ACHIEVEMENT AND SELF-CONC EPT IN MULTI-AGE CLASSROOMS

ED RESEARCH QUARTERLY 1981 6 • 69-75

INPUT: CHILD SETTING/CHARAC

PROCESS:

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HNDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ACHEIV/SELF-CONCEPT SCORE

DEP VAR-TOTAL READING SCORE TOTAL MATH SCORE. SELF CONCEPTSCORE

COMMENTS: IND VAR-TYPE OF CLASSROOM

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WEINBERG N

MODIFYING SOCIAL STEREOTYPES OF THE PHYSICALLY DISABLED  
 REHABILITATION COUNSELING BULLETIN 1978 22 0 114-124  
 INPUT: CHILD/SETTING CHARACTERISTICS/ATTITUDE

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARIABLE: TEST BOOKLETS  
 PHYSICAL CONDITION OF CHILD

COMMENTS: IND VAR-TYPE OF SCHOOL.

WEINSTEIN R

READING GROUP MEMBERSHIP IN FIRST GRADE: TEACHER BEHAVIOR & PUPIL EXPERIENCE OVER TIME  
 JOURNAL OF EDUCATIONAL PSYCHOLOGY 1976 68 0 103-116

INPUT: CHILD CHARACTERISTICS

PROCESS: TEACHER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HANDICAP: NH

DESIGN: QUASI-EXPERIMENTAL

AGE: INCLUDES ELEM

DEP VARIABLE: TCHR BEHAV/PUPIL MOBILITY COMMENTS: IND VAR-READING GROUP

WERRY J QUAY H

OBSERVING THE CLASSROOM BEHAVIOR OF ELEMENTARY SCHOOL CHILDREN  
 EXCEPTIONAL CHILDREN 1969 35 0 461-470

INPUT: CHILD CHARACTERISTICS

PROCESS: CHILD BEHAVIOR

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: Y AGE: ELEM HANDICAP: NH/LH

DESIGN: QUASI-EXPERIMENTAL

DISORDERS" VS NRML)

DEP VARIABLE: STUDENT/TEACHER INTERACTIONS COMMENTS: IND VAR-LABEL("CONDUCT

WESTERVELT V MCKINNEY J

EFFECTS OF A FILM ON NON-HANDICAPPED CHILDREN'S ATTITUDES TOWARD HANDICAPPED CHILDREN  
 EXCEPTIONAL CHILDREN 1980 46 0 294-296

INPUT: CHILD CHARACTERISTICS

PROCESS: DIRECT TEACHING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH

DESIGN: EXP-RANDOM ASSIGN

SEX/RACE OF CHILDREN

DEP VARIABLE: QUESTIONNAIRE

COMMENTS: IND VAR-EXPOSURE TO FILM

WHEELER R RYAN F

EFFECTS OF COOPERATIVE AND COMPETITIVE CLASSROOM ENVIRONMENTS ON THE ATTITUDES  
 JOURNAL OF EDUCATIONAL PSYCHOLOGY 1973 65 0 402-407

INPUT: CHILD CHARACTERISTICS

PROCESS: COOPERATIVE LEARNING

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDICAP: NH

DESIGN: EXPERIMENTAL

ELEMENTARY SCHOOL STUDENTS ENGAGED IN SOCIAL STUDIES INQUIRY ACTIVITIES

DEP VARIABLE: PERCEPTION TEST/ATTITUDES COMMENTS: AND ACHIEVEMENT OF ELEMENTARY SCHOOL STUDENTS ENGAGED IN SOCIAL STUDIES INQUIRY ACTIVITIES IND VAR-GOAL STRUCTURE, ANXIETY

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## WICKER A

ATTITUDE VS ACTIONS: THE RELATIONSHIP OF VERBAL AND OVERT BEHAVIORAL RESPONSES TO  
 JOURNAL OF SOCIAL ISSUES 1969 25 0 41-78  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 DISCUSSION OF RELATIONSHIP OF VERBAL & OVERT BEHAVIORAL RES-PONSES TO ATTITUDE OBJECTS COMMENTS:

## WIENER J

A THEORETICAL MODEL OF THE ACQUISITION OF PEER RELATIONSHIPS IN LEARNING DISABLED  
 J OF LEARNING DISABILITIES 1980 13 0 42-47  
 INPUT: CHILD CHARACTERISTICS  
 PROCESS:  
 PRODUCT: CHILD OUTCOMES  
 REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HANDCP: LH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: SOCIO-METRIC/TCHR RATING COMMENTS: CHILDREN  
 IND VAR-AREA OF DISABILITY SEVERITY OF DISABILITY

## WILEY D HARNISCHFEGER A

EXPLOSION OF A MYTH: QUANTITY OF SCHOOLING & EXPOSURE TO INSTRUCTION. MAJOR ED VEHICLES  
 EDUCATIONAL RESEARCHER 1974 3 0 7-12  
 INPUT:  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:  
 DESIGN: NONEMPIRICAL DEP VARBL:  
 ORY OF THE EFFECT OF SCHOOLING COMMENTS: PRESENTS A MODEL OF A THE

## WILLEY N MCCANDLESS B

SOCIAL STEREOTYPES FOR NO RMAL, EHR, & ORTHOPEDICALLY HAND DICAPPED CHILDREN  
 JRNL OF SPECIAL EDUCATION 1973 7 0 283-288  
 INPUT: CHILD CHARAC/ATTIT  
 PROCESS:  
 PRODUCT:  
 REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ATTITUDE MEASURE COMMENTS: IND VAR-HANDICAPPING COND  
 ITION

## WILLIAMS R ALGOZZINE B

DIFFERENTIAL ATTITUDES TOWARD MAINSTREAMING: AN INVESTIGATION  
 ALBERTA JRNL OF ED RESEARCH 1977 23 0 207-212  
 INPUT: LABEL/TEACHER ATTITUDE  
 PROCESS:  
 PRODUCT:  
 REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDCP:  
 DESIGN: QUASI-EXPERIMENTAL DEP VARBL: RESPONSES TO QUESTIONS COMMENTS: IND VAR-CATEGORY OF HANDCP  
 (L.D, EHR, SED, PH)

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WILLIS S BROPHY J

ORIGINS OF TEACHERS' ATTITUDES TOWARD YOUNG CHILDREN

JOURNAL OF ED PSYCHOLOGY 1974 66 0 520-529

INPUT: TEACHER ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ADULT HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER BEHAVIOR

COMMENTS: IND VAR-TEACHER ATTITUDE

WILSON B SCHMIDTS D

WHAT'S NEW IN ABILITY GROUPING?

PHI DELTA KAPPAN 1978 59 0 535-536

INPUT:

PROCESS:

PRODUCT:

REGULAR: RESOURCE: SPECIAL: AGE: HANDCP:

DESIGN: NONEMPIRICAL DEP VARBL:

COMMENTS: DISCUSSION OF ABILITY GRO

UPING

WISELY D MORGAN S

CHILDREN'S RATINGS OF PEERS PRESENTED AS MENTALLY RETARDED &amp; PHYSICALLY HANDICAPPED

AJHD 1981 86 0 281-286

INPUT: CHILD CHARAC / ATTITUDES

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: ADJECTIVE CHECKLIST ETC COMMENTS: IND VAR-TREATMENT GROUP

YOSHIDA R MEYERS C

EFFECT OF LABELING AS EHR ON TEACHERS' EXPECTANCIES FOR CHANGE IN STUDENT PERFORMANCE

JRNL OF ED PSYCHOLOGY 1975 67 0 521-527

INPUT: TEACHER CHARAC

PROCESS: CHILD BEHAVIOR

PRODUCT: TEACHER ATTITUDES

REGULAR: RESOURCE: SPECIAL: AGE: ADULT HANDCP:

DESIGN: QUASI-EXPERIMENTAL DEP VARBL: TEACHER EXPECTANCIES COMMENTS: IND VAR-LABEL. TCHR TYPE.

TRIALS

YOUNG S ALGOZZINE B SCHMID R

THE EFFECTS OF ASSIGNED ATTRIBUTES AND LABELS ON CHILD PEER ACCEPTANCE RATINGS

ETHR 1979 14 0 257-261

INPUT:

PROCESS: PEER BEHAVIOR

PRODUCT: CHILD OUTCOMES

REGULAR: Y RESOURCE: SPECIAL: AGE: ELEM HANDCP: NH

DESIGN: EXP-RANDOM ASSIGNMENT DEP VARBL: QUESTIONNAIRE

COMMENTS: IND VAR- LABEL &amp; KNOWLEDG

OF ATTRIBUTES

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YSSELDYKE J FOSTER G

BIAS IN TEACHERS' OBSERVATIONS OF ED AND LD CHILDREN  
EXCEPTIONAL CHILDREN 1978 44 0 613-615

INPUT: CHILD CHARAC

PROCESS:

PRODUCT:

REGULAR: Y RESOURCE: SPECIAL:

AGE: ACULT HNDCP:

DESIGN: EXP-RANDOM ASSIGNMENT

DEP VARBL: BEHAVIOR CHECKLIST

COMMENTS: IND VAR-LABEL

ZIEGLER S HAMBLETON D

INTEGRATION OF YOUNG THR CHILDREN INTO A REGULAR ELEMENTARY SCHOOL  
EXCEPTIONAL CHILDREN 1976 42 0 459-461

INPUT: CHILD CHARAC

PROCESS: PEER BEHAV

PRODUCT:

REGULAR: RESOURCE: SPECIAL: Y AGE: ELEM HNDCP: SH

DESIGN: QUASI-EXPERIMENTAL

DEP VARBL: BEHAVIOR CHECKLIST

OR AT PUBLIC SCHOOL

COMMENTS: IND VAR-INSTITUTIONALIZED

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